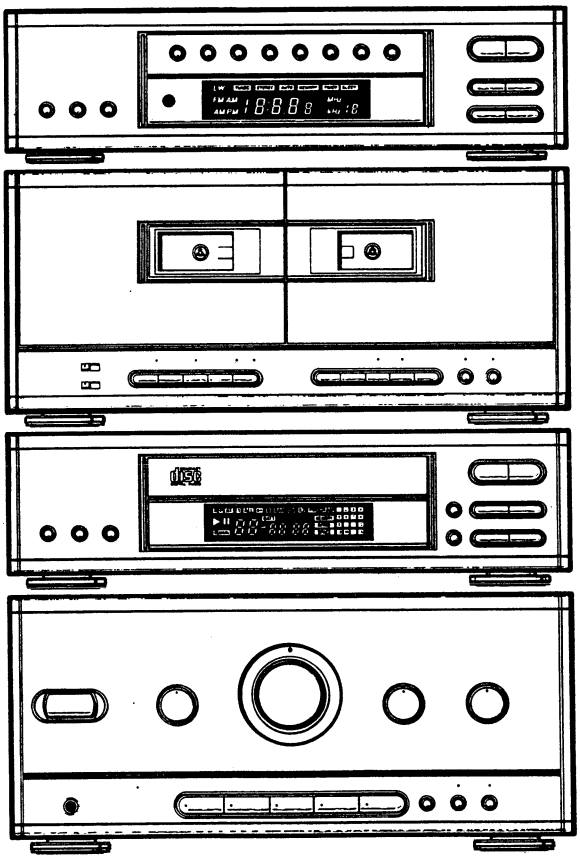
SERVICE MANUAL



"PRESTIGE 5000RC"
Art.–Nr. 952/001

MINI-COMPONENT SYSTEM

- AMPLIFIER
- TUNER
- STEREO DOUBLE CASSETTE TAPE DECK
- COMPACT DISC PLAYER

CONTENTS

1. SPECIFICATIONS ..... 4 ~ 5
   1-1. Amplifier
   1-2. Tuner
   1-3. Stereo double cassette tape deck
   1-4. Compact disc player

2. FRONT PANEL FEATURES ..... 6~12
   2-1. Amplifier
   2-2. Tuner
   2-3. Stereo double cassette tape deck
   2-4. Compact disc player

3. REMOTE CONTROL UNIT 13

4. PARTS NAME & THEIR FUNCTIONS OF THE REAR 14

5. ADJUSTMENT ..... 15~21
   5-1. Tuner
   5-2. Stereo double cassette tape deck
   5-3. Compact disc player

6. ELECTRICAL PARTS LIST ..... 22~28
   6-1. Amplifier
   6-2. Tuner
   6-3. Stereo double cassette tape deck
   6-4. Compact disc player

7. SCHEMETIC DIAGRAM ..... 29~36
   7-1. Amplifier
   7-2. Tuner
   7-3. Stereo double cassette tape deck
   7-4. Compact disc player

8. P.C BOARDS CONNECTION DIAGRAM ..... 37~44
   8-1. Amplifier
   8-2. Tuner
   8-3. Stereo double cassette tape deck
   8-4. Compact disc player

9. EXPLODED VIEW ..... 45~58
   9-1. Amplifier
   9-2. Tuner
   9-3. Stereo double cassette tape deck
   9-4. Compact disc player

10. PACKING 59

1. SPECIFICATIONS

1-1. AMPLIFIER

Power Output
1 KHz, 8 ohm, 0.3%.....35W+35W
T.H.D
1 KHz, 1/10 power output.....0.1%

INPUT (Sensitivity /Impedance)
Phono.....2.5mV/47K ohms
Aux.....150mV/47K ohms

Frequency Response
Phono (RIAA e.q 20-20, 000Hz)..... ±1.5dB
Aux (-3dB Point position).....10Hz-60KHz

Tone Control
Bass(100Hz)..... ±10dB
Treble(10KHz)..... ±10dB

Super Bass
50Hz..... +9dB

Speaker Load Impedance
Main..... 8 ohms-16 ohms
Surround..... 8 ohms-16 ohms

Power Requirement ..... For 230V/50Hz

Power Consumption.....160W
Dimensions(W*H*D).....270*126.5*300
Weight (Without Package).....5.5Kg

1-2. TUNER

FM Tuner Section

Frequency Range.....87.50MHz-108.0MHz
Usable Sensitivity.....14dBu,EMF
Signal To Noise Ratio.....Mono 70dB
Stereo 65dB
T.H.D.....Mono 0.3%
Stereo 0.3%
Selectivity.....More Than 40dB
Channel Seperation(1KHz).....More Than 30dB
Frequency Response ..... ±2-1dB(30Hz to 15KHz)
Image Ratio.....More Than 40dB
If Rejection.....More Than 80dB

AM Tuner Section

Frequency Range.....532KHz-1602KHz
Sensitivity (Ihf Loop Ant).....400uV/m
T.H.D.....Less Than 2%
Selectivity.....More Than 20dB
Signal to Noise Ratio.....More Than 40dB
Image Rejection Ratio.....More Than 40dB
T.H.D.(1KHz).....2.0%
If Rejection 50dB

AUDIO Section

Output Level
FM (67.5KHz DEV.).....650mV/3.6KΩ
AM (30% MOD).....150mV/3.6KΩ
Dimensions(W*H*D).....270*70*300
Power Requirement .....DC 19V
Weight (Without Package).....2.7Kg

1－3. STEREO DOUBLE CASSETTE TAPE DECK

System
Double Compact Cassette 2－Channel Stereo

Head
Hard Permalloy Recording/Playback Head……1
Hard Permalloy Playback Head……1
Ferrite Erasing Head……1

Motor……DC Servo Motor×1

WOW & Flutter (JIS/WRMS)
Nominal Value……NO More Than 0.12%
Maximum Value……NO More Than 0.20%

Frequency Response(－20dB Recording)
Nomal Tape……40－13500Hz
Chrome Tape……40－14000Hz
Metal Tape……40－14000Hz

Signal to Noise Ratio
Dolby NR OFF……More Than 54dB
Dolby NR ON……More Than 64dB

T.H.D……NO More Than 1.2%

Output Level/Impedance……316mV/2.2K
Power Requirement……AC 17V
Dimension(W＊H＊D)…… 270＊126.5＊300
Weight (Without Package)……3.5Kg

1－4. COMPACT DISC PLAYER

Number of Channels……2
Frequency Response……20－20,000Hz(±1.5dB)
Dynamic Range……70dB (20KHz Filter)
Signal to Noise Ratio…… 75dB (IHF－A Filter)
T.H.D……0.1%(1KHz, 20KHz Filter)
Channel Separation……75dB (1KHz, 20KHz Filter)
WOW/Flutter……Less Than Measurable Limit
Channel Balance…… ±1dB

Signal Format
Sampling Frequency……44.1KHz
Quantization Number ……16bit Dual D/A Converter
Transmission Bit Rate ……4.3218 Mb/Sec

Power Requirement…… AC 8V×2
Dimension(W＊H＊D)…… 270＊70＊300
Weight(Without Package)……2.6Kg

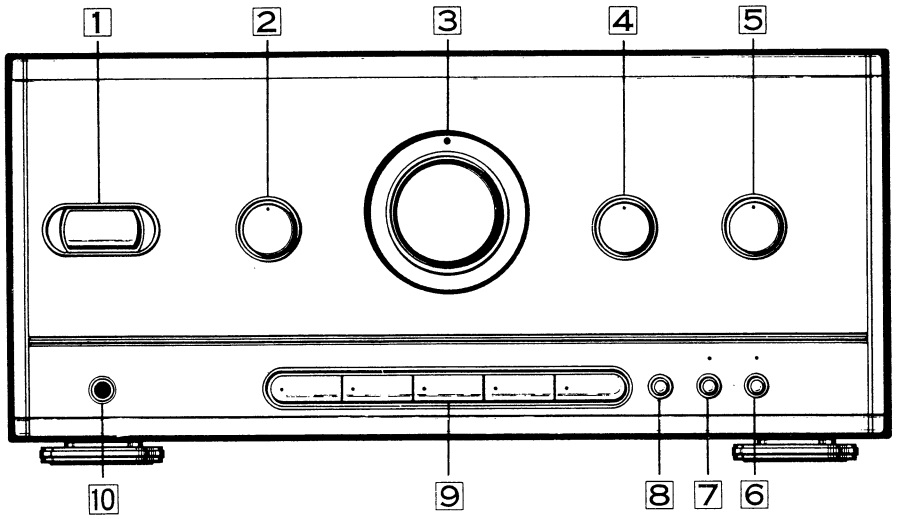
NOTE :
The specifications and appearance noted above are subject to change without notice due to improvements.

FURNISHED PARTS

AM LOOP ANTENNA……1
FM T ANTENNA……1
REMOTE CONTROL UNIT……1

2. FRONT PANEL FEATURES

2-1. AMPLIFIER



1. POWER (STAND-BY/ON) switch
The accessory remote control unit can also be used to operate this switch's STAND-BY/ON function.
The unit's circuitry will work as long as the power cord is connected to power outlet.
When not using the unit for a long period, disconnected the power cord.

2. BALANCE control
Should nomally be left in center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, move toward the LEFT position and if the left side is louder, move toward the RIGHT position.

3. VOLUME control
Use to adjust volume level.

4. BASS tone control
Used to adjust the low-frequency tone. The center position is the flat (nomal) position.
When moved to the right, low-frequency tones are emphasized. When moved to the left, low frequency tones are deemphasized.

5. TREBLE tone control
Used to adjust the high-frequency tone. The center position is the flat (nomal) position.
When moved to the right, high-frequency tones are emphasized. When moved to the left, high-frequency tones are deemphasized.

6. SURROUND switch
Press to turn the surround effect ON or OFF.

⑦. SUPER BASS switch
If this switch is on, extra low-frequency(below 100 Hz) tones are emphasized.

⑧. MUTE switch
Used to temporarily cut out all audio signals.

⑨. INPUT SELECTOR switch
Use this selector switch to select to input source.
TUNER : Press when listen to music from the TUNER.
TAPE : Press when listen to music from the CASSET TAPE DECK.
CD : Press when listen to music from the CD PLAYER.
PHONO: Press when listen to music from the TURNTABLE.
AUX : Press when listen to music from the other unit which connected to the AUX jack.

⑩. HEADPHONE JACK
When using headphones, Inseart its plug into this jack.

AUTO FUNCTION SYSTEM

There are two ways of auto function system in this unit.

Auto function system 1
Input selector switches of amplifire are selected automatically by press the operation buttons of TUNER or DECK.

Example
If you press the preset station buttons or frequency UP or DOWN botton of tuner, input selector switch of amp change to tuner position automatically.
If you press the FWD or REV button of deck, input selector switch of amp change to deck position automatically.
But It doesn't operate compact disc player.

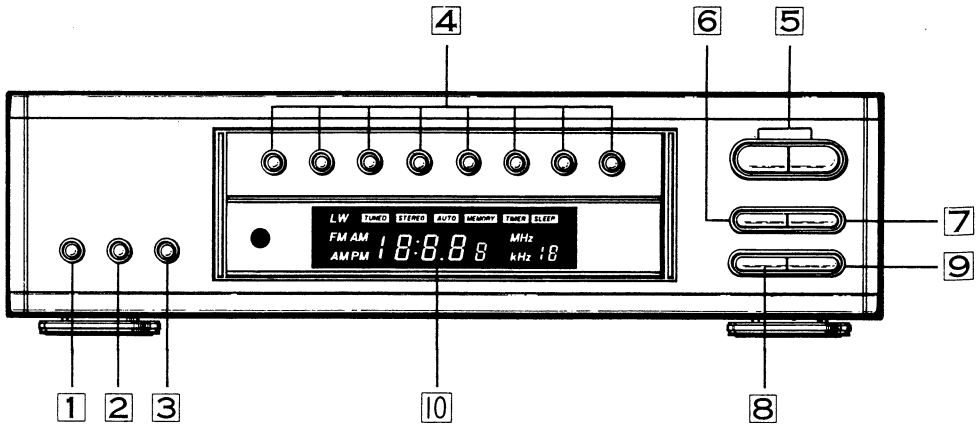
Auto function system 2
Each unit(deck or CD player) are operated automatically by press the input selector switch of amp.

Example 1.
If you press the CD button of amp, CD player is played automatically.
But it doesn't operate in case of CD is not located in compact disc player.

Example 2.
If you perss the TAPE button of amp, DECK is played automatically.
But it doesn't operate in case of tape is not loaded in deck A or B.
If the tape is loaded A and B deck, A deck is played first.

You can equally operate auto function system by remote control unit.

2-2. TUNER



1. DISPLAY button
Used to select the clock or frequency display mode.

2. SLEEP button
When this button is pressed on any display mode, SLEEP and 60 come on.
That means power will be off after 60 minutes.

3. TIMER ON button
When this button is pressed on any display mode, TIMER comes on.
That means power will be on at presetted time.

4. STATION SELECTOR button
These are used to preset an recall the broadcast station.

5. FREQUENCY UP/DOWN button
This is used to locate the station. Push either side of this button ; left side "DOWN" to go to the low freq. and right side "UP" to go to high freq..

6. MEMORY/CLOCK ADJ. button
Press this button to activate the station programming and clock adj..

7. FM/AM button
Used to select the FM/AM broadcast bands.

8. AUTO/MANUAL button
Use this button when change the tuning method.
When "AUTO" signal is on in LCD display, Auto searching will be engaged and signal is off, manual searching will be engaged.

9. MONO/STEREO button
This is used to FM stereo broadcast will be heard in mono, this button doesn't operate for AM reception.

10. LCD display
Show the current frequency of station, time, TIMER on, SLEEP, perset NO., STEREO and TUNED etc.

LISTEN TO THE RADIO

1. Press the TUNER function button on amplifier or the preset call buttons or the BAND button of tuner
2. Select either AM or FM band by pressing the FM/AM button.
3. Tune the desired station with the FREQUNCY UP or DOWN button.

MEMORY THE STATION

1. Press the MEMO button.
2. When the MEMO button is pressed, the memory indicator P1 will be appeared in LCD display for 5 seconeds.
3. While the memory indicator P1 appeared, press the one of the preset station buttons for the channel to be preset.
4. If you press the MEMO button two times, in case of FM, the memory indicator P2 be will appeared and you can memory the other stations in channel 9−16.

RECALL THE PRESET STATION

1. When you press the preset station button, the memorized station in channel 1−8 is recalled.
2. If you press the preset station button for 1 to 2 second, recalled the memoried station in channel 9−16 in case of FM mode.
3. In case of AM mode recalled only channel 1−8

SETTING THE PRESENT TIME

1. Press the DISPLAY button to change to the time display.
2. Press the DISPLAY button and MEMO button at the same time.
3. Repeat No.2
4. Setting the hour with the FREQUENCY DOWN button.
5. Setting the minute with the FREQUENCY UP button.
6. When you finished the setting, press the MEMO button.
7. Press the DISPLAY button to change to te frequency display.

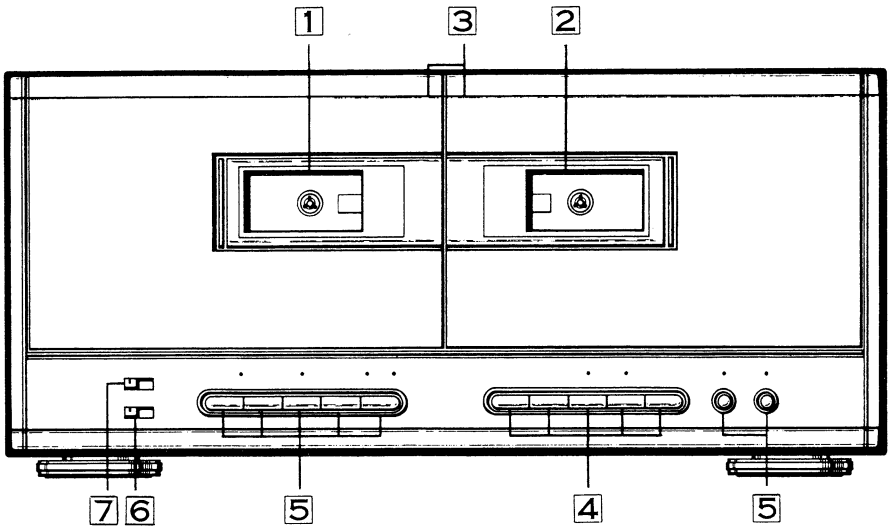
SETTING THE TIMER

1. Press the DISPLAY button to change to the time display mode.
2. Press the DISPLAY button and MEMO button at the same time.
3. Press the MEMO button one more time.
4. Setting the hour with the FREQUENCY DOWN button.
5. Setting the minute with the FREQUENCY UP button.
6. When you finished the setting, press the MEMO button.
7. Press the DISPLAY button to change to the frequency display.

SETTING THE SLEEP FUNCTION

1. Press the SLEEP button, then SLEEP and 60 appeared in LCD display.
2. Whenever the SLEEP button is pressed, sleep time is decrease at interval of ten minutes.
3. After the sleep time setting, return to the previous display mode after 5 seconds but SLEEP is displayed in LCD diplay.
4. If you press the SLEEP button, during sleep timer operation, the remained time is displayed and return to the previous mode after 5 seconds.

2-3. STEREO DOUBLE CASSETTE TAPE DECK



1. DECK A

Deck for playback.

2. DECK B

Deck for playback/recording.

3. PUSH Button

This button open/close the cassette deck door.

4. Operating Buttons

FWD PLAY : Press this button for forward playback or recording. When recording, press this button in pause mode.

REV PLAY : Press this button for reverse playback or recording. When recording, press this button in pause mode.

STOP : Press this button to cancel all tape travel function.

F.F : Press this button to wind tape in the right direction. When used in playback mode performs a forward music search.

REW : Press this button to wind tape in the left direction. When used in playback mode performs a reverse music search.

5. Function Buttons

NORMAL dubbing : To dubbing a tape cassette from Deck A to Deck B at normal speed.

HIGH dubbing : High speed dubbing from Deck A to Deck B, at twice the normal speed. For high speed auto dubbing, press this button (2 Times).

RECORD/MUTE : This button can be used for recording. This button is pressed then the player unit enters the REC pause mode. When this button is pressed during recording a blank space of about 4 sec is record on the tape.
The player then enters the REC PAUSE mode.

REC PAUSE : When pressed while recording, the tape stops temporarily. Press again to restart recording.

A/B SEL : Deck selector button. This button is used to selector DECK A or DECK B. Press the part marked A or B to select the desired deck.

REPEAT A↔B : When this button is pressed during playback, playback repeatedly between two point on a tape cassette. (5 Times)

RELAY & SKIP : When this button is pressed, playback is relayed from DECK A to DECK B, or DECK B to DECK A. (5 Times)

6. REVERSE MODE SWITCH

This switch can be used for both DECK A and DECK B.

⇄: This switch is used to record and playback one side of a tape.
The tape will stop automatically when fully rewind.

↻: Unless the stop button is pressed, both sides of the tape will be playback 5 Times each (Total of 10 sides).
Select this position to record on both side of the tape. Auto reverse is only possible from the (FWD PLAY) to the (REW PLAY) direction. If recording is started in the (REV PLAY) direction, the tape will stop automatically at the end of the first side. To record both sides, always start from the (F-WD PLAY) direction.

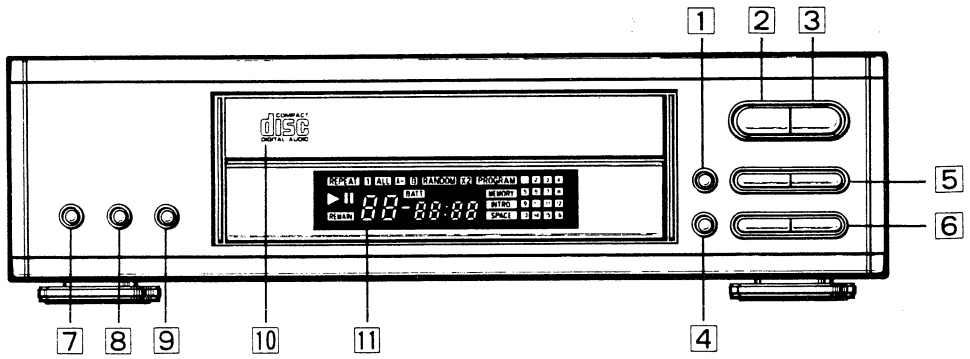
7. DOLBY NR Switch

This switch controls the DOLBY Noise Reduction System.

DOLBY B NR : Dolby B NR provides 10dB of improvement in S/N ratio.

DOLBY OFF : Dolby noise reduction system off.

2-4. COMPACT DISC PLAYER.



1. OPEN/CLOSE BUTTON

Press this button to open/close the disc tray.

2. PLAY(▶)BUTTON

Press this button to play a disc.

3. PAUSE (II)BUTTON

Press this button to pause mode press the button again to release the play mode.

4. STOP BUTTON

Press this button to stop the disc.

5. TRACK (|◀◀,▶▶|)BUTTON

FORWARD TRACK (▶▶|)
Pressing the track froward button while "CD" is in the pause or play mode will advance the track counter one number in the approprite direction and prepare to play from the beginning of that track.

REVERSE TRACK(|◀◀)
Pressing the track reverse button while "CD" is in the pause or play mode will decrement the track counter one number in the appropritf direction and prepare to play from the beginning of that track.

6. SEARCH(◀◀,▶▶)

FORWARD SEARCH(▶▶)
When this button is pressed, the pick up will move in the forward direction at fast speed.

REVERSE SEARCH(◀◀)
When this button is pressed, the pick up will move in the reverse direction at fast speed.

7. MEMORY BUTTON

Use this button to select the order in which the tracks are played.

11 DISPLAY

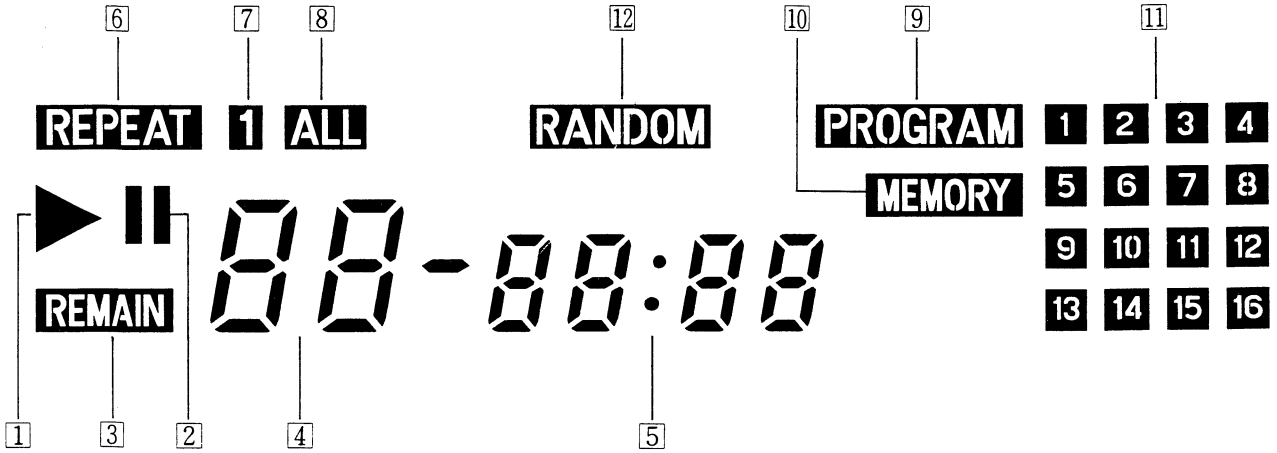
8. REPEAT (ONE/ALL) BUTTON

Press this button for repeat play. by pressing it once, the player will go into the ONE REPEAT mode I.E. the track being played will be played continuously. By pressing it once again, the player will go into the ALL REPEAT mode I.E. the entire disc will be played continuously. By pressing it a third time, repeat function will be cancelled.

9. TIME BUTTON

The time display sequency is as fo each→each remain→each total.

10 DISC TRAY



1. PLAY INDICATOR

Lights during normal disc play or programmed play.

2. PAUSE INDICATOR

Lights when the player is in the pause mode.

3. REMAIN INDICATOR

Lights when the display shows the each or total remaining time.

4. TRACK INDICATOR

Lights the disc "TRACK NO" during disc play.

5. PLAY TIME INDICATOR

Lights elapsed time during disc play.

6. REPEAT INDICATOR

7. REPEAT ONE

Lights during one track repeat play.

8. REPEAT ALL

Lights during all tracks repeat play.

9. PROGRAM INDICATOR

Dights during memorized tracks play.

10. MEMORY INDICATOR

Lights when "MEMORY" button pressed.

11. TRACK CALENDAR INDICATOR

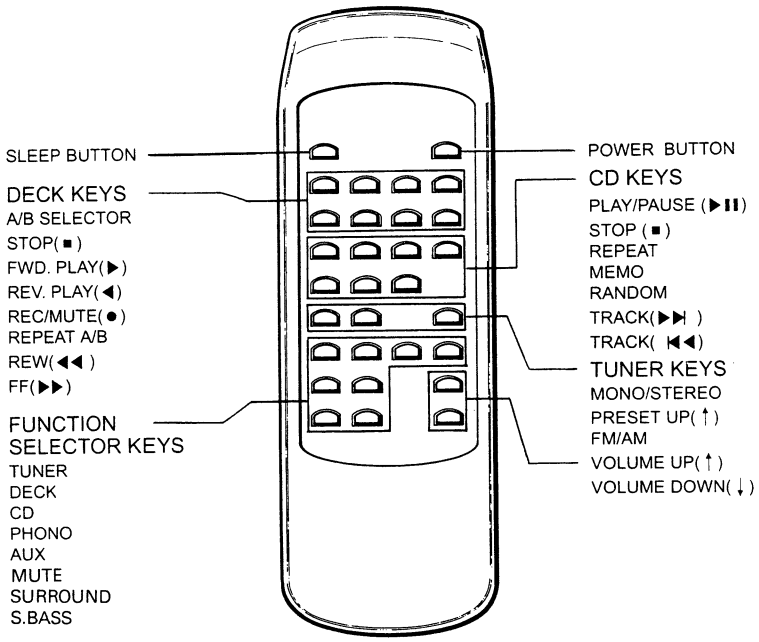
Can indicate total 16 number of track on the disc. The indicator lights number of track when the tracks on the disc cannot be displayed more than 16 tracks.

12. RANDOM PLAY INDICATOR

Lights during random play.

3. REMOTE CONTROL UNIT

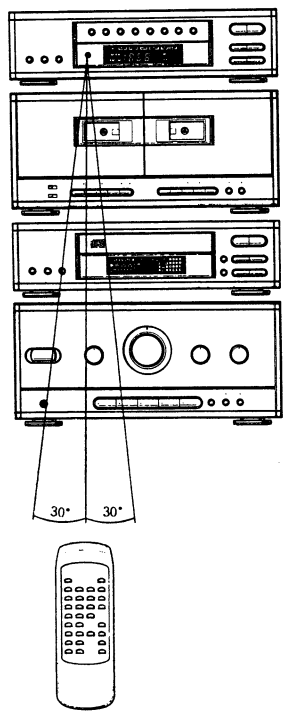
Remote control will not be possible if there is an obstacle between the remote control unit and it's sensor window.



RANGE OF REMOTE CONTROL

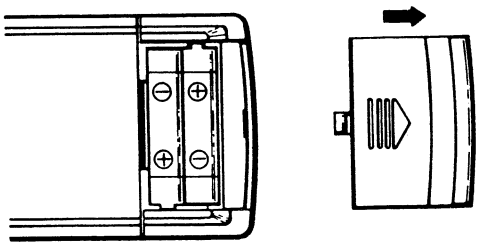
The remote control unit is pointed at the remote control sensor window on the TUNER and any of it's keys is pressed, the unit and other components can be operated by remote control.

Distance : Within a range of about 23 feet(7 meters) from the unit's remote control sensor window.
Angle : Within approx. 30 degrees from the center of the unit's remote control sensor window.



HOW TO INSERT THE BATTERIES

1)Open the door on the bottom of remocon Ass'y as shown below.
2)Insert the batteries.(AAA type)
3)Close the door.



4. PARTS NAME & THEIR FUNCTIONS OF THE REAR

[1]. TUNER SYSTEM CONNECTION TERMINAL
Connect the system connection cord of Tuner.

[2]. PHONO TERMINAL

[3]. AUX TERMINAL

[4]. DECK SYSTEM CONNECTION TERMINAL
Connect the system connection cord of Deck.

[5]. CD SYSTEM CONNECTION TERMINAL
Connect the system connection cord of CD player.

[6]. SURROUND SPEAKER TERMINAL (option)

[7]. SPEAKER TERMINAL

[8]. AC CORD
Connect this cord to outlet on the wall.

[9]. SYSTEM CONNECTION CORD OF TUNER
Connect this cord to TUNER SYSTEM CONNECTION CORD TERMINAL of Amp.

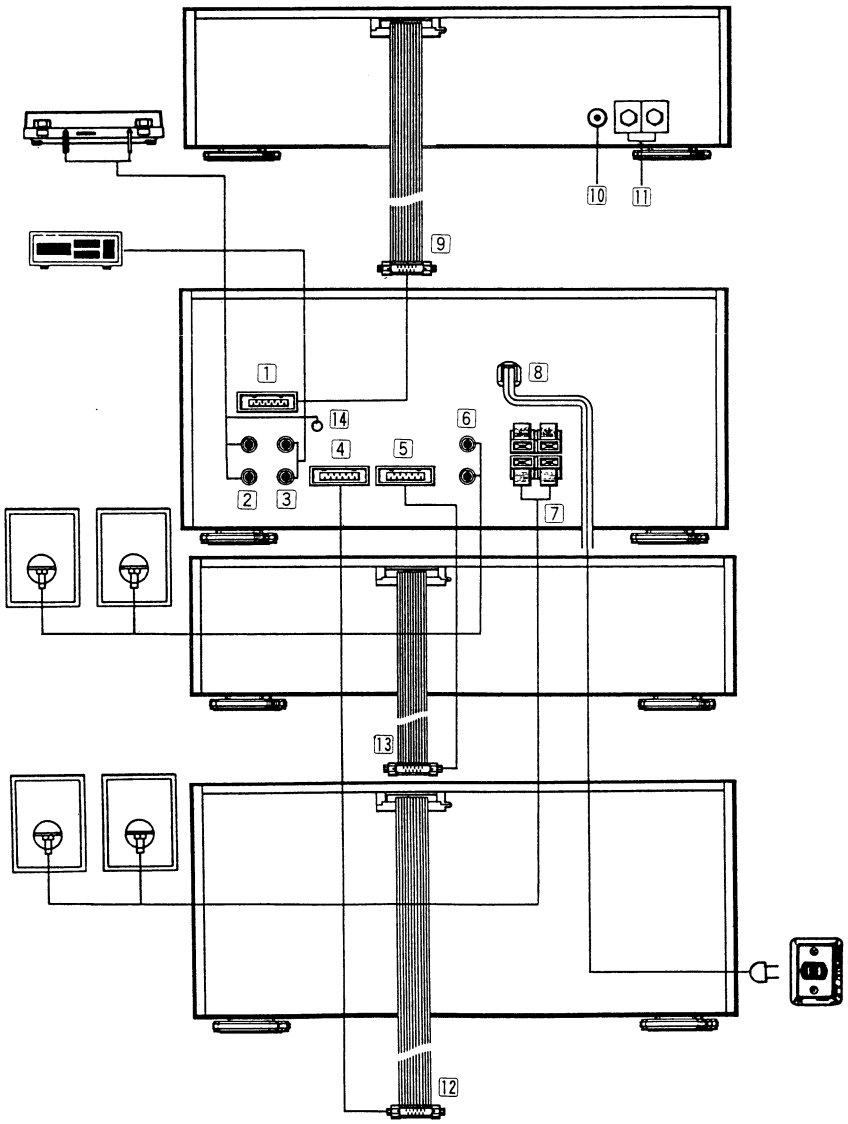
[10] FM ANT TERMINAL

[11] AM ANT TERMINAL

[12]. SYSTEM CONNECTION CORD OF DECK
Connect this cord to DECK SYSTEM CONNECTION CORD TERMINAL of Amp.

[13]. SYSTEM CONNECTION CORD OF CD
Connect this cord to CD SYSTEM CONNECTION CORD TERMINAL of Amp.

[14]. TURNTABLE GND TERMINAL



5. ADJUSTMENT

5-1. TUNER

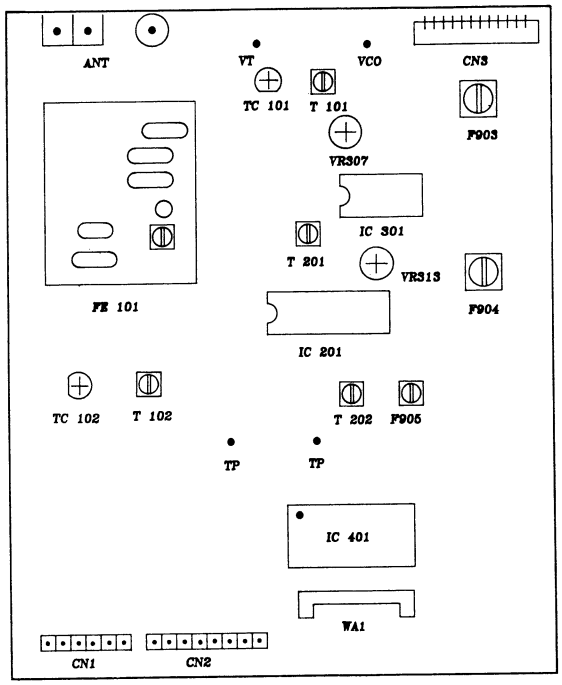


Fig 5-1. TUNER Adjustment points

FM Tuner section
Connect the FM signal generator (FM SG) to the FM Antenn a 75 ohm terminal.

Set the LT-450 to the FM Band
1) Tune the FM SG to the LT-450
2) Connect the FM Multiplex stereo signal generator to the FM SG external Modulation terminal.
3) SET the modulation to Main 1KHz/L+R/ 67.5 KHz deviation, pilot 19KHz/ 7.5 KHz deviation.

STEP	FM SG 1KHz, 67.5KHz deviation		Tuner Freuency Display	Adjustment Point	Adjustment procedure
	Frequency	Level			
1	No Signal		87.50MHz		Confirm that DC 1.9V ±0.5V between terminal VT and Ground
2	No Signal		108.00MHz		Confirm that DC 8.0V ±0.5V between terminal VT and Ground
3	98.0MHz	60 dB	98.0MHz	T 202	Adjust until T-meter at between T-T could be positioned at center
4	98.0MHz	60 dB	98.0MHz	VR 301	Adjust signal between terminal VCO and Ground to 76KHz (±50Hz)
5	98.0MHz	60 dB	98.0MHz	VR 313	Adjust Seperation, More Than 35dB

AM Tuner

Connect the furnished AM Loop antenna between terminals AM ANTENNA and GND
Connect the AM Signal generator (AM SG) to the AM Antenna Terminal
Tune the AM SG to the LT−450

STEP	AM SG 400KHz, 30% Modulation		Tuner Freuency Display	Adjustment Point	Adjustment procedure
	Frequency	Level			
1	No Signal		532KHz	T 102	1.1V DC between terminal VT and GND
2	No Signal		1602KHz	TC 102	7.8V DC between terminal VT and GND
3	Repeat steps 1 and 2 until both specification are correct.				
4	594KHz	80dB	594KHz	T 101	Adjust until maximum sensitivity in attained
5	1395KHz	80dB	1395KHz	TC 101	
6	Repeat steps 4 and 5 until maximum sesitivity is attained.				
7	999KHz	100dB	999KHz	T 201	Adjust until maximum sensitivity in attained

5−2. STEREO DOUBLE CASSETTE TAPE DECK

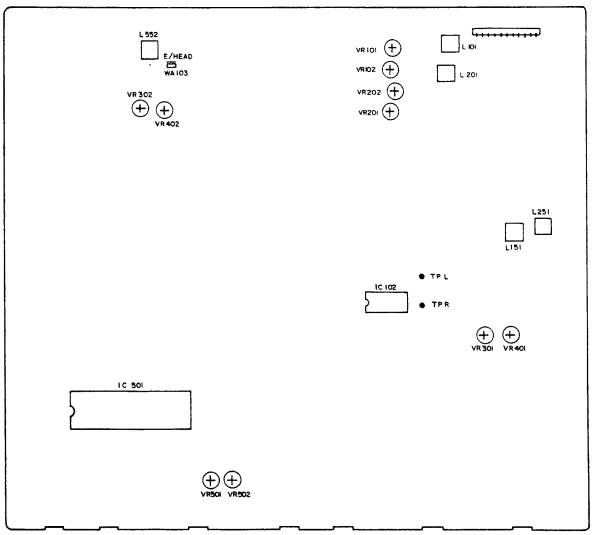


Fig 5−2. DECK A, DECK B Adjustment Points

1. Mechanical Section Adjustment

Tape speed adjustment (High−speed adjustment after Normal−speed adjustment is performed).					
NO	Mode	Test tape	Adjusting points	Measuring location	Adjustment value
1	Play	TCC−112 (3KHz/−10dB, A−BEX)	VR 501 (Normal speed)	LINE OUT	3000Hz ± 15Hz
2	High Dubbing	TCC−112 (3KHz/−10dB, A−BEX)	VR 502 (High speed)	LINE OUT	6000Hz ± 30Hz

Adjustment Conditions

1. Mechanism section adjustment should have been completed first.
2. Heads should be cleaned and demagnetized.
3. Aging of deck should be performed for at least 2−3 minutes before starting electrical adjustment.
4. Reference signal should be set to 0dB=1Vrms.
5. The following switch setting should not be changed unless otherwise indicated
   DOLBY NR : OFF

Test Tapes

1. TCC−161 : Playback adjustments (Frequency, level)
2. TCC−121 : Playback adjustments (level)
3. AC −224 : NORMAL blank tape
4. AC −513 : CHROME blank tape
5. AC −712 : METAL blank tape

PLAYBACK SECTION

1. Head azimuth adjustment.
2. Playback level adjustment.
3. Playback frequency check.
4. Playback time constant switching check.

DECK A and B

1. Head Azimuth Adjustment

Turn VR101, 102, 201, 202 to mechanical center positions.

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	PLAY	10KHz/−24dB TCC−161B	Head azimuth adjustment screw	LINE OUT	Maximum Play back signal level
2	STOP	Lock the screw with screw lock after completing adjustment.			

2. Playback Frequency Response Check

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	PLAY	TCC−161B		LINE OUT	The allowable zone shown in Fig.7−3 is to be satisfied.

3. Playback Level Adjustment DECK A and DECK B

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	PLAY (DECK A)	TCC−121	VR 102 (L ch) VR 202 (R ch)	LINE OUT	−10dBV
2	PLAY (DECK B)	TCC−121	VR 101 (L ch) VR 201 (R ch)	LINE OUT	−10dBV

4. Playback Time Constant Switching Check

Put the deck into playback mode with 120's none recording cassette loaded.
Check that the noise level changes at the line playback output terminals when the playback mode with 70's none recording cassette loaded.

RECORDING SECTION

1. MPX filter adjustment.
2. Recording Bias OSC frequency adjustment
3. Recording Level adjustment
4. Recording Bias adjustment
5. Recording and Playback frequency response check (Record level : −30dBV)
6. Bias filter adjustment
7. Dubbing frequency response check

DECK B

1. MPX Filter Adjustment					
NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	REC/ PAUSE	19KHz/0 dBV (NR ON)	L 151 (L ch) L 251 (R ch)	LINE OUT	Minimum 19 KHz level
2. Recording Bias OSC Frequency Adjustment					
NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the AC−712 test tape into DECK B.			
2	REC/ PAUSE	None	L 552 (BIAS OSC Coil)	E/H wire	105 KHz ± 300 Hz
3. Recording Level Adjustment					
NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the AC−224 test tape into DECK B.			
2	REC/ PAUSE	315Hz/0 dBV	Attenuator	LINE OUT	−10 dBV
3	REC/ PAUSE	Record the above signal onto the AC−224 test tape, and playback.	VR 301 (L ch) VR 401 (R ch)	LINE OUT	−10 dBV
4	STOP	Load the AC−513 test tape into DECK B.			
5	REC/ PAUSE	Record the above signal onto the AC−513 test tape, and playback.	Check	LINE OUT	−10 dBV± 1 dB
6	STOP	Load the AC−712 test tape into DECK B.			
7	REC/ PAUSE	Record the above signal onto the AC−712 test tape, and playback.	Check	LINE OUT	−10 dBV± 1 dB
4. Recording Bias Adjustment After the adjustment caution should be exercised so as not to become under bias by checking the distortion rate.					
NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the AC−224 test tape into DECK B.			
2	REC/ PAUSE	AC−224 (NORMAL) 315 Hz/0 dBV	Attenuator	LINE OUT	−30 dBV
3	REC/	AC−224 (NORMAL) 315Hz/10KHz, −30dBV	VR 431 (L ch) VR 441 (R ch)	LINE OUT	−30dBV± 0.5 10KHz/315Hz
5. Recording and Playback Frequency Response Check (Record level : −30dBV)					
NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the AC−224 test tape into DECK B.			
2	REC PAUSE	AC−224 (NORMAL) NR : off/on	Check	LINE OUT	The allowable zone show in Fig.7−4 is to be satisfied.
3	STOP	Load the AC−513 test tape into DECK B.			
4	REC/ PAUSE	AC−513 (CHROME) NR : off/on	Check	LINE OUT	The allowable zone show in Fig.2 is to be satisfied.

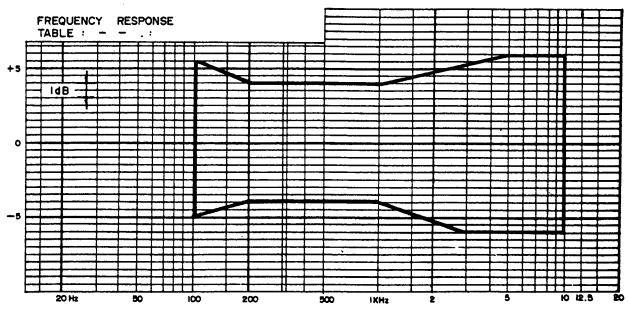


Fig 5-5. DUBBING FREQUENCY RESPONSE ALLOWANCE ZONE.

5-3. COMPACT DISC PLAYER

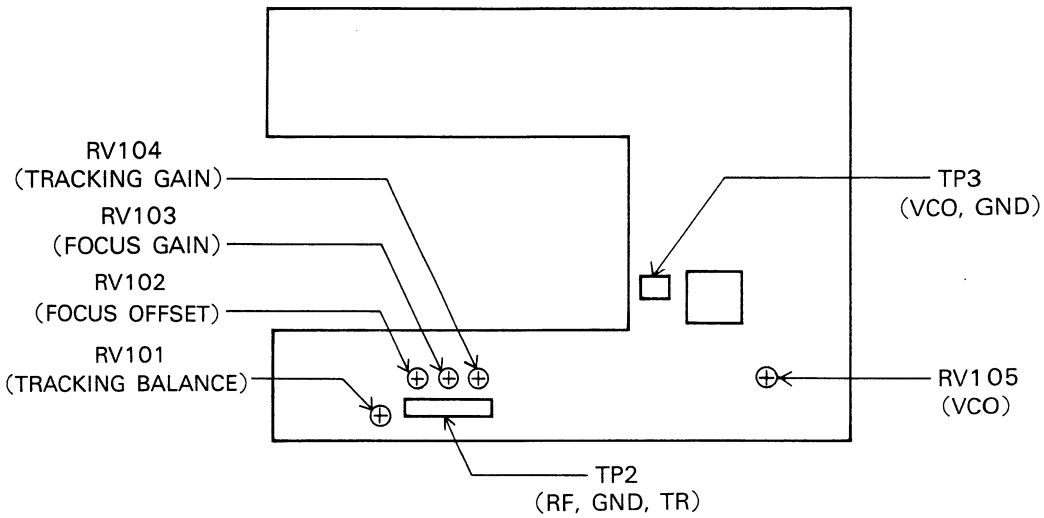


Fig 5-6. COMPACT DISC PLAYER Adjustment points

1. ADJUSTMENT POINT

RV104
(TRACKING GAIN)
RV103
(FOCUS GAIN)
RV102
(FOCUS OFFSET)
RV101
(TRACKING BALANCE)
TP3
(VCO, GND)
RV105
(VCO)
TP2
(RF, GND, TR)

2. ADJUSTMENT PROCEDURE

1) VCO ADJUSTMENT

PURPOSE : To adjust the EFM decoder reference clock free run frequency to a suitable value.

MALADJUSTMENT SYMPTOMS : Spindle lock not possible, distorted or no sound at all.

- ◉ Connect a frequency counter to test pins TP3(VCO) and TP3(GND), and turn on the power.
- ◉ Adjust RV105 (VCO) to obtain a frequency of 5.4 MHz.

2) FOCUS OFFSET ADJUSTMENT

PURPOSE : To adjust the electrical offset of the focus amplifire to zero.

MALADJUSTMENT SYMPTOMS : No focus closing.

- ◉ Connect an oscilloscope or DC voltmeter to test points TP2(RF) and TP2(GND).
- ◉ Adjust RV102(FOCUS OFFSET) to abtain DC voltage ± 0mv.

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
5	STOP	Load the AC−712 test tape into DECK B.			
6	REC/ PAUSE	AC−712 (METAL) NR : off/on	Check	LINE OUT	The allowable zone show in Fig.7−4 is to be satisfied.

6. Bias Filter Adjustment

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the none recording test tape into DECK A. Load the AC−712 test tape into DECK B.			
2	DUBB (X2)	DECK A : None recording tape. DECK B : AC−712	L 101 (L ch) L 201 (R ch)	LINE OUT LINE OUT	Minimum level

7. Dubbing Frequency Response Check
*** DOLBY NR OFF**

NO.	MODE	Input signal, test tape	Adjustment location	Measuring location	Adjustment value
1	STOP	Load the TCC−161B test tape into DECK A. Load the AC−224 test tape into DECK B.			
2	DUBBING X1, X2	DECK A : TCC−161B DECK B : AC−224			Copy recorded from TCC−161B (at both normal and double speeds)
3	PLAY	Play the signal recorded on the AC−224 test tape in the previous tape in the previous adjustment procedure.	Check	LINE OUT	The allowable zone show in zone show in Fig.7−5 is to be satisfied.
4	STOP	Load the AC−513 test tape into DECK B.			
5	Repeat steps 2 and 3 check that the allowable zone show in Fig.7−5 is satisfied.				
6	STOP	Load the AC−712 test tape into DECK B.			
7	Repeat steps 2 and 3 check that the allowable zone show in Fig.7−5 is satisfied.				

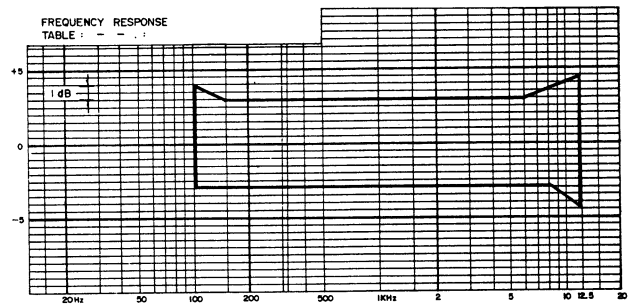


Fig **5−3**. PLAYBACK FREQUENCY RESPONSE ALLOWANCE ZONE.

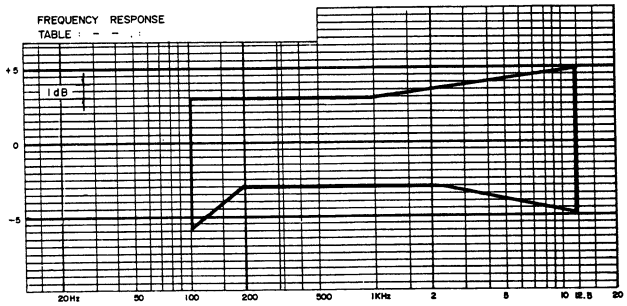


Fig **5−4**. RECORDING/PLAYBACK FREQUENCY RESPONSE ALLOWANCE ZONE.

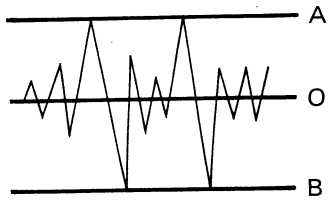
3) TRACKING BALANCE ADJUSTMENT

PURPOSE : To adjust the tracking servo offset to zero.

MALADJUSTMENT SYMPTOMS : Search times too long, poor playabilty, carriage run—away.

- ◉ Connect an oscilloscope to test points TP2(TR) and TP2(GND).
- ◉ Turn on the power and load the test disc in the disc tray, and push the play button.
- ◉ Press continuously the track search button (▶▶).
- ◉ Using an oscilloscope, observe the tracking error signal.

During track search, adjust RV101 TRACKING BALANCE) to set the positive and negative amplitudes to the same levels as shown below.



(A=B)

oscilloscope 100mv/div.
1 msec/div.

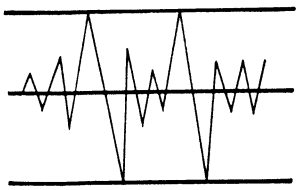
4) TRACKING GAIN ADJUSTMENT

PURPOSE : To adjust the tracking servo loop gain to an optimum value.

MALADJUSTMENT SYMPTOMS : Poor playability, reduced resistance to vibration.

- ◉ Connect an oscilloscope to test points TP2(TR) and TP2(GND).
- ◉ Turn on the power and load the test disc in the disc tray, and push the play button.
- ◉ Press continuously the track search button (▶▶).
- ◉ Using an oscilloscope, observe the tracking error signal.

During track search, adjust RV104(TRACKING GAIN) to obtain the peak voltage of 400mv± 20mv as shown below.



Vpp=400mV± 20mV

oscilloscope 100mv/div.
1 msec/div.

5) FOCUS GAIN ADJUSTMENT

PURPOSE : To adjust the focus servo loop gain to an optimum value.

MALADJUSTMENT SYMPTOMS : Poor playability, reduced resistance to vibration, focus closure fails readly.

- ◉ Connect an oscilloscope to test points TP2(RF) and TP2(GND).
- ◉ Turn on the power and load the test disc in the disc tray, and push the play button.
- ◉ Using an oscilloscope, observes the focus error signal.

During playing, adjust RV103 (FOCUS GAIN) to obtain the focus error voltage of 100 mv ± 10 mv as shown below.

100mV± 10mV

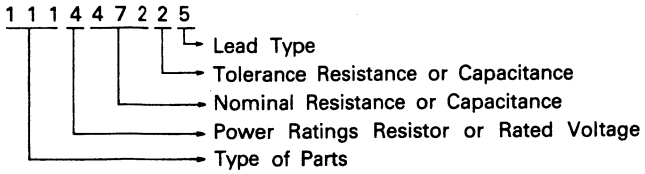
oscilloscope 100mv/div.
1 msec/div.

6. ELECTRICAL PARTS LIST

ELECTRICAL PARTS LIST

NOTE :
When ordering parts first convert parts number into code form as shown in the following examples.

PARTS NUMBERING


1 1 1 4 4 7 2 2 5
Lead Type
Tolerance Resistance or Capacitance
Nominal Resistance or Capacitance
Power Ratings Resistor or Rated Voltage
Type of Parts

RESISTOR

1) Type of parts
   1-11 : Carbon Film Resistor
   1-12 : Metal Oxide Resistor

2) Power Ratings Resistors

8···1/8W	4···1/4W	5···1/2W
1···1W	2···2W	7···4W

3) Resistor Value

479···4.7Ω	560···56Ω	681···680Ω
472···4.7KΩ	123···12KΩ	104···100KΩ

4) Tolerance Resistance
   1···± 2% 2···± 5%

5) Lead Type
   1 : Straight Type 5 : Tapping Type

ex) 1−115−330−25 : Carbon Film Resistor, 1/2W, 330 5%, Tapping Type
   1−114−102−25 : Carbon Film Resistor, 1/4W, 1K 5%, Tapping Type
   1−118−223−25 : Carbon Film Resistor, 1/8W, 22K 5%, Tapping Type

6−1. AMPLIFIER

Main Ass'y

REF.NO.	PARTS NO.	DESCRIPTION
• SEMICONDUCTORS		
IC 1	244152041	NJM4558DD
IC 2	244133472	LC7821
IC 3,5	244123342	KIA4558P
IC 4	244080731	GD4066B
IC 6	244201672	STK4152II ⚠
IC 7	260012801	LE1023 ⚠
IC 8	244121771	MC7812 ⚠
IC 10	244123171	MC7912 ⚠
IC 11	244121871	MC7805
Q702,703	240210925	C1627A−Y
Q704,705,802	240010815	A950−0
Q701,707,302	240610315	C101M
Q401,703,706, 708,709	240610215	A101M
Q201L,201R, 301L,301R, 501L,501R, 502L,502R, 1 402,404,803,710	240211135	C3198
Q2	240011835	A1266
Q601L,601R	240315525	D1302B
D601,602,801,803 804,806,807, 808,809	241358165	IN4003L ⚠
D1,800	241017995	ISS133
D801	241337141	RS403L ⚠
D401,402	242107545	IN755A ⚠
D701	242105655	IN752A ⚠
• COILS		
L601L,601R	212924301	1 uH
• WAFERS & CONNECTORS		
WA7	216812201	3P
WA801,802	216828001	11P
WA1,2	216837701	9P
WA3	216837601	8P
WA5,8,14	216812101	2P
WA6	216812401	5P
WA15	216825901	3P ANGLE
WA4	216899701	8P
CN5	215979401	2P, 150mm
CN9	215984702	6P, 450mm
• FUSE		
F801,F802	218862401	FUSE(3.15A/250V) ⚠

REF.NO.	PARTS NO.	DESCRIPTION
• RESONATOR		
X701	213816901	CERAMIC RESONATOR
• OTHERS		
RY801	214013101	RELAY ⚠
	215576001	SPEAKER TERMINA
	215550201	4P PIN JACK
	215550101	2P PIN JACK
PT2	213145801	POWER TRANS(S) ⚠
	312331702	HEAT SINK
	299911401	FUSE HOLDER
PJ901	215562801	PHONE JACK
	289920501	EARTH WIRE
• CAPACITORS		
C702	142622865	CEA,0.22,50V
C504,600,2	142601065	CEA,1.50V
C502L,502R,704,1	142622965	CEA,2.2,50V
C101L,101R, 107L,107R 206L,206R, 208L,208R 302L,302R, 306L,306R 307L,307R, 501L,501R 507L,507R, 602L,602R	142647965	CEA,4.7,50V
C605	142510065	CEA,10,50V
C607,609	142610065	CEA,10,50V
C205	142322065	CEA,22,16V
C108L,108R, 204L,204R 207L,207R, 301L,301R 401,402,505, 506,809 808,807,103L, 103R	142347065	CEA,47,16V
C603L,603R, 604L,604R	141447065	CEA,47,25V
C611,612	141647065	CEA,47,50V
C606,608	141410165	CEA,100,25V
C703	141322165	CEA,220,16V
C806	141410267	CEA,1000,25V
C803	141522267	CEA,2200,35V
C801,802	142647267	CEA,4700,50V
C101L,102R	188627145	CCDSL271J,50V
C104L,104R	188610245	CCDSL101J,50V
C303L,303R	188612145	CCDSL102J,50V
C305L,305R	188668145	CCDSL681J,50V
C601L,601R	188647145	CCDSL,471J,50V
C400,701	175610495	CKDYF,104Z,50V

REF.NO.	PARTS NO.	DESCRIPTION
• CARACITORS		
C106L,106R	150622245	CQMA,222J,50V
C105L,105R	150682245	CQMA,822J,50V
C304L,304R	150632245	CQMA,332J,50V
C610	150610345	CQMA,103J,50V
C600L,600R, 503L,503R	150647345	CQMA,473J,50V

Control Ass'y

• SEMICONDUCTORS		
IC9	244123342	KIA4558P
D901,902,903	241017995	1SS133
D904,905,906,907, 908,909,910	241953331	LED(GREEN)
• VOLUME & SWITCH		
VR901,902	250121901	TONE VOLUME
VR903	250121601	BALANCE VOLUME
SW901,902,903, 904 905,906,907,908 909		
• WAFER & CONNECTORS		
CN13	215964501	3P, 150mm
• CAPACITORS		
C903L,903R	150647245	CQMA,472J,50V
C904L,904R	150618345	CQMA,183J,50V
C907L,907R	150630345	CQMA,303J,50V
C909L,909R, 902L,902R	142647965	CEA,4.7,50V
C905L,905R, 906L,906R	142622965	CEA,2.2,50V
C910,911	142347065	CEA,47,50V

Power Voltage Ass'y

CN7	215965301	3P,350mm
CN8	215983401	2P,300mm
CN6	215983301	5P,300mm
PT1	213145701	POWER TRANS(M)
	221110902	AC CORD
F803	218861401	FUSE(T315mA/250V)⚠
F804	218861901	FUSE(T1.25A/250V)
C808	199810101	0.01uF,250V
RY801	214013101	RELAY
D800	241017965	1SS133
WA5	216812101	2P

HeadPhone Ass'y

REF.NO.	PARTS NO.	DESCRIPTION
PJ901	215562801	PHONE JACK
WA9	216811601	6P

Tuner Input Ass'y

VA901	216828001	11P
WA10	216837501	7P
WA11	216837601	8P
CN4	215984802	8P,450mm

Indicator Ass'y

D911	241980331	LED(RED)
CN14	215961901	2P,250mm

Main Volume Ass'y

VR904	250121401	MAIN VOLUME
WA13	216812201	3P
WA12	216837601	8P

6–2. TUNER

Main Ass'y

REF.NO.	PARTS NO.	DESCRIPTION
• IC"S		
IC201	244131872	LA 1265
IC301	244020751	AN 7470
IC302	244121771	MC 7812 ⚠
IC401	244135972	LC 7230–8272 ⚠
• TRANSISTOR AND FET		
Q501	240411145	2SK–246Y
Q101	240210135	KYC380TM–Y
Q201,301,302,401, 502,308	240211135	KTC1815–GR
Q102,104,303	240210215	KRA2201
Q402	240610915	KSR1003
Q902	240211815	2240
Q901	240211335	1923
• DIODE		
D201,202,203, 204,205,206,213, 208,211,212,214, 301,302,303,309, 402,403,404,405, 406,407,408,411, 413,415,416,417, 418,421,422, 423,412,414 ※Omit the D412, 414,in HZH,HZN, HZL,versions.	241016995	ISS131
ZD201	242107545	1N755A ⚠
ZD202,401,402	242105655	1N752A ⚠
VC101,102	241508091	SVC321 SPA–D
• COIL AND FILTER		
T102	2127107O1	AM OSC
T101	2127106O1	AM ANTENNA
T201	2127124O1	AM IFT
T202	2127553O1	FM DET
F201	2138312O1	SFU 450–B
X201	2138313O1	BFU 450–CAN
F101,102	2138361O1	SFE10,7MJ
L201	101147221	4.7mH
X401	2138109O1	ASS–018–A
F903,904	2138511O1	DOLBY MPX FILTER
F905	2138521O1	ANTI BODY FILTER
F906	2138609O1	BAND PASS FILTER

REF.NO.	PARTS NO.	DESCRIPTION
• CAPASITOR		
TC101,102	212111701	CVCNO 6B200
C101,102,103, 205,206,901,902 914,923,924		
208,217	171610355	CKDYB 103K
C104,107,206, 214,421	175622395	CKDYF 223Z
C211,216	171622255	CKDYB 222K
C204	18861545	CCDSL 151J
C105	187607015	CCDUJ 7D
C401,402	188630045	CCDSL 30J
C306	175647355	CKDYF 473K
C316,317,404	150647245	CQMA 472J
C208,504	150647345	CQMA 473
C502	150610245	CQMA 102J
C312,313	150612245	CQMA 122J
C201,314,315, 921	141601065	CEA 1/50
C308	141310165	CEA 100/16
C304,503	141615965	CEA 1.5/50
C305,109	141622865	CEA 0.22/50
C207,213,301,303	141633965	CEA 3.3/50
C108,202,212, 409,505	141333065	CEA 33/16
C215	141647965	CEA 4.7/50
C311	141347065	CEA 47/16
C405	141668965	CEA 6.8/50
C501	141647865	CEA 0.47/50
C318	142333165	CEA 330/16
C403	142233165	CEA 330/10
C407	141110267	CEA 100/50
C302	153647141	CQSA 471J
C106	153643141	CQSA 431J

REF.NO.	PARTS NO.	DESCRIPTION
• MISCELLANY		
FE101	212511101	SE2020F 4 GANG
WA1	216830701	30P VERTICAL
TRA 401	212937201	D/A INV
CN 1	216837401	6P CS250
CN 2	216837601	8P CS250
CN 3	215939701	CFG1311-101Y
SHELD CASE	312851901	
ANT TERMINAL	215577501	
CARD CABLE	215982502	KFC 30P/150MM
VR 301	251210301	6MM(RH015)10K

Control Ass'y

REF.NO.	PARTS NO.	DESCRIPTION
LCD401	214311202	SLC-50276R
SW1-17	220899901	S/W TACT
RS 401	212580201	KRM-33G
L 401	103422945	2.2uH
JP 1	216300501	6P
JP 2	216300701	8P
C 406	141347065	CEA 47/16
LCD HOLDER	321851001	ABS-WHITE
E.L. 401	214371401	SPD-91-35

6-3. STEREO DOUBLE CASSETTE TAPE DECK

REF.NO.	PARTS NO.	DESCRIPTION
• CONTROL KEY UNIT ASS'Y		
S22, 23	219017701-1	S/W, SLIDE
S15,18,19~21	220899901	S/W, TACT
JP501	215982401	CONNECTOR ASS'Y (9P)
JP502	215982201	CONNECTOR ASS'Y (5P)
JP503	215981901	CONNECTOR ASS'Y (3P)
• CONTROL KEY UNIT ASS'Y		
S10~14,16,17	220899901	S/W, TACT
JP504	215982301	CONNECTOR ASS'Y (7P)
JP505	215982101	CONNECTOR ASS'Y (5P)
R6	111422125	220, 1/4W, 5%
R7	111822125	220, 1/8W, 5%
• MAIN UNIT ASS'Y		
• CARBON F RESISTOR		
R569,570,149 311,411,6,8,9 564,561,562,563 132,232,604,145 603,609,619,601 602,260,144,151 251,557,605,620 130,255,300	1114***25	*** ,1/4W,5%

REF.NO.	PARTS NO.	DESCRIPTION
R400,501,505 507,614,552,587 588,589,565,584 140,240,310,410 567,125,510,580 307,407,596,101 581,582,216,551 560,127,131,231 259,10,157,590 150,250,305,405 555,556		
OTHER	1118***25	***,1/8W,5%
• CAPACIOR		
C601	141422267	CEA2200,20%, 25V ⚠
C604	141110267	CEA1000,20%, 6.3V
C602,611	141422165	CEA220, 20%, 25V
C100,111,200,556	141310165	CEA100, 20%, 16V
C106,206,607	141347065	CEA47, 20%, 16V
C605	141433065	CEA33, 20%, 25V
C149	141333065	CEA33, 20%, 16V
C224,330	121322065	CEA22, 20%, 16V
C155,225,304,404	141310065	CEA10, 20%, 16V
C108,208,305,405	141647995	CEA4.7, 20%, 50V
C123,154,223 254,560,561	141622965	CEA2.2, 20%, 50V
C104,105,124 150,151,152,153 204,205,250,251 252,253,301,401 551,608,122,222	141601065	CEA1, 20%, 50V
C115,116,141 142,215,216	141647865	CEA0.47, 20%, 50V
C303,403	141622865	CEA0.22, 20%, 50V
C121,140,220,240	141610865	CEA0.1, 20%, 50V
C501,502	188630045	SL 30J, 50V, 5%
C557,558	188F22155	SL 221K, 500V, 10%
C101,201	188633145	SL 331J, 50V, 10%
C109,209,102,202	188656145	SL 561J, 50V, 5%
C103,203	171612255	YB 122K, 50V, 10%
C144,609	175647395	YF 473Z, 50V, +80-20%
C143	175610495	YF 104Z, 50V, +80-20%
C306,406	150612245	MA 122J, 50V, 5%
C552	150622245	MA 222J, 50V, 5%
C302,402,553,554	150656245	MA 562J, 50V, 5%
C307,407	150668245	MA 682J, 50V, 5%
C311,411	150675245	MA 752J, 50V, 5%
C559	150E82245	MA 822J, 400V, 5%
C107,207,308,408	150610345	MA 103J, 50V, 5%
C310,410,555	150615345	MA 153J, 50V, 5%
C110,210,309,409	150622345	MA 223J, 50V, 5%

REF.NO.	PARTS NO.	DESCRIPTION
• SEMI FIXED RESISTER		
VR501,502	251247201	4.7K, RH0615C
VR101,201,102,202	251222301	22K, RH0615C
VR302,402	251210401	100K, RH0615C
• COIL AND FILTER		
L151,251	213851001	NTF-024, MPX
L302,402	212926101	NTH-061, BIAS TRAP
L101,201	212930301	M-10L, PB TRAP
L551	212921501	RTF-057, LINE
L552	212937101	BIAS OSC
L301,401	101147221	NTH-030, 4.7mH
• SEMI CONDUCTOR		
IC501	260012701	LE-1022 (CPU)
IC102	244093932	HA12136A
IC140	244032063	BA335
IC101	244215275	TA7405PZ
IC301	244121971	KA4558S or MC4558S
Q605	244121871	KA7805 or MC7805 ⚠
Q602	240215321	KTD2058/1406Y ⚠
Q506,508,510,552	240014025	KTA966A-Y
Q555	240211625	KTC2236A-Y
Q103,203	240315525	KTD1302-B
Q502,554,561, 562,607	240011835	KTA1266/1015GR
Q101,102,141,151, 152,153,154,201, 202,251,252,253, 254,301,302,304, 305,306,331,401, 402,404,405,406, 511,512,551,553, 556,557,558,559, 560,563,564,565, 601,603,606,608, 104,105,106,204, 205	240211135	KTC3198/1815GR ⚠
Q505,507,509	240610815	KSR1001
Q501,513	240610615	KRA103M/2203
Q503,504,514	240610415	KRC103M/1203
Q303,403	240611115	KSR1010
D601,602,603,604	241358165	IN4003L ⚠
D150,151,250,251, 300,502,503,504, 551,552,553,554, 555,556,557,558, 559,605,606, 607,505,	241017995	ISS133
ZD601	242105655	IN752A, 5.6V ⚠
D1,2,4,5,6,7,8	241903131	KLG124ET
D3	241914131	KLR124ET
X101	213812101	KBR-4.0MS

REF.NO.	PARTS NO.	DESCRIPTION
• OTHERS		
RY100	214021101	RZ−12(DPDT)
CN501	215864201	52004−1110(MOLEX)
CN502	215863501	52004−1310(MOLEX)
WA101,503	216810201	WAFER, 3P, 2MM
WA502,505	216810401	WAFER, 5P, 2MM
WA504	216810601	WAFER, 7P, 2MM
WA501	216810801	WAFER, 9P, 2MM
WA103	216812101	WAFER, 3P, 2.5MM
WA102	216812201	WAFER, 2P, 2.5MM
FU1	299911401	PFC−5000(FUSE HOLDER)
JP1	215939701	CONNECTOR ASS'Y(11P)
−	371070203	HEAT SINK. 40MM, AL

P.C. BOARD ASS'Y OTHERS

217075402 : P.C. BOARD
A17A75402 : UNIT ASS'Y
A17A75412 : MAIN UNIT ASS'Y
A17A75421 : CONTROL KEY UNIT ASS'Y
A17075431 : CONTROL KEY UNIT ASS'Y
221618901-1 : DECK MECHA ASS'Y(CWA−404RR)
215981701 : CONNECTOR ASS'Y(PB HEAD)
215981801 : CONNECTOR ASS'Y(R/P HEAD)
289960501 : EARTH WIRE(MECHA GROUND)
289961601 : EARTH WIRE(MECHA−F/PANEL GROUND)
218812101 : FUSE(F1.5A/250V)

6−4. COMPACT DISC PLAYER

MAIN PC BOARD ASS'Y

REF.NO.	PARTS NO.	DESCRIPTION
• SEMICONDUCTORS		
IC101	2440418741	CXA−1081S
IC102	2440419741	CXA−1082BS
IC105	2440423711	CXD−1167Q
IC106	2440421741	CXP−1010QA
IC107	2442181641	TDA−1543(A)
IC103	2442026791	STA341M
IC104,108, 109,110,111	244123671	KA4558C
IC112	244121871	KA7805 ⚠
IC113	244123271	KA7905 ⚠
D103,104,105,106	241358165	IN4003L ⚠
D102,107	241017995	1SS133
Q104	240215215	MPSA26
Q101,102,105	240010825	KTA1271
Q103	240211425	KTC3203
Q106,109,110,111 112,114,115,116	240211135	KTC3198
Q107,118	240610715	KSR2001
Q108,117	240610915	KSR1003
Q113	240014025	KTA966A

• VARIABLE RES STORS		
RV101,103,104	251222301	6MM 2 2K
RV102	251247201	6MM 4.7K
RV105	251222201	6MM 2.2K

• CONNECTORS & WAFERS		
JP401	215992001	11P,P=2.5,JST 52305−11P.BLACK
CN101	216830701	ALCO,30P,VERTI
TP2	216812201	NKCO220,3P
TP1,3	216812101	NKCO21,2P,2.5MM
CN102	216812401	NICCO240,5P
CN103	216810701	GILS8PS2T22F
CN104,105,106	216810301	GILS4PS2T22F
CN301	216810601	GILS7PS2T2EF
CN302	216810101	2P,2MM

• STYROL CAPACITORS		
C157,160	153618141	CQSA,181J,5%,50V
C151,154	153647141	CQSA,471J,5%,50V

• MYLAR CAPACITORS		
C114,127,135, 149,150	150610245	CQMA102J,50V,5%
C101	150622245	CQMA222J,50V,5%
C113,121,133,175	150647245	CQMA472J,50V,5%
C106,129	150610345	CQMA103J,50V,5%
C130,163,176	150615345	CQMA153J,50V,5%
C107,119,177	150633345	CQMA333J,50V,5%
C123	150647345	CQMA473J,50V,5%
C108,122,125	150610445	CQMA104J,50V,5%

• ELECTRIC CAPACITORS		
C105,120,132	141647865	CEA,0.47,20%,50V
C141,142	141601065	CEA, 1,20%,50V
C124	141633965	CEA, 3.3,20%,50V
C166,167,168,169	141647965	CEA, 4.7,20%,50V
C174	141668965	CEA, 6.8,20%,50V
C118	141610065	CEA, 10,20%,50V
C128	141222065	CEA, 22,20%,10V
C104,109,111,112 115,116,126,131 134,137,138,139 146	141247065	CEA, 47,20%,10V
C148,164	141347065	CEA, 47,20%,16V
C170,171	141322267	CEA,2200,20%,16V ⚠
C147	141310165	CEA, 100,20%,16V

• CERAMIC CAPACITORS		
C102	180612045	CCDCH12P,50V,5%
C152,153	180618045	CCDCH18J,50V,5%
C143,144	180633045	CCDCH33J,50V,5%
C158,159	180647045	CCDCH47J,50V,5%
C110,117,136,140	175610395	CKDYF103Z,50V

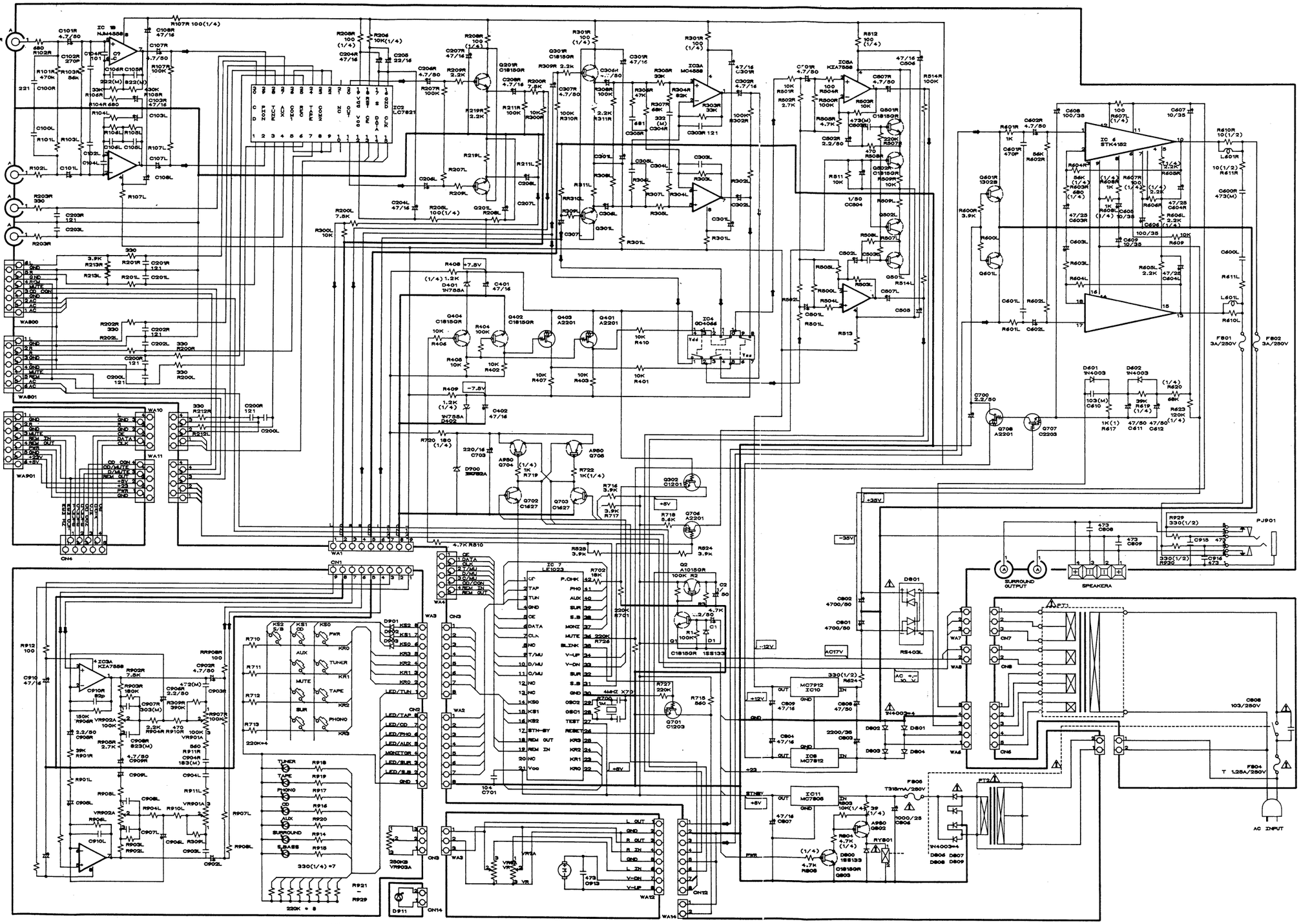
• MISCELLANY		
X101	213816201	16.9344MHz,X−TAL
L101	212930401	AF CHOKE, 10μH
TR101	212937201	D/A INVERTER
FU101,102	2999114011	PFC−5000
RY101	2140211011	RZ−12(DPDT) ⚠
HS102	371070103	30MM,AL
FU101,102	218862701	T IA/250V ⚠

CONTROL PC BOARD ASS'Y

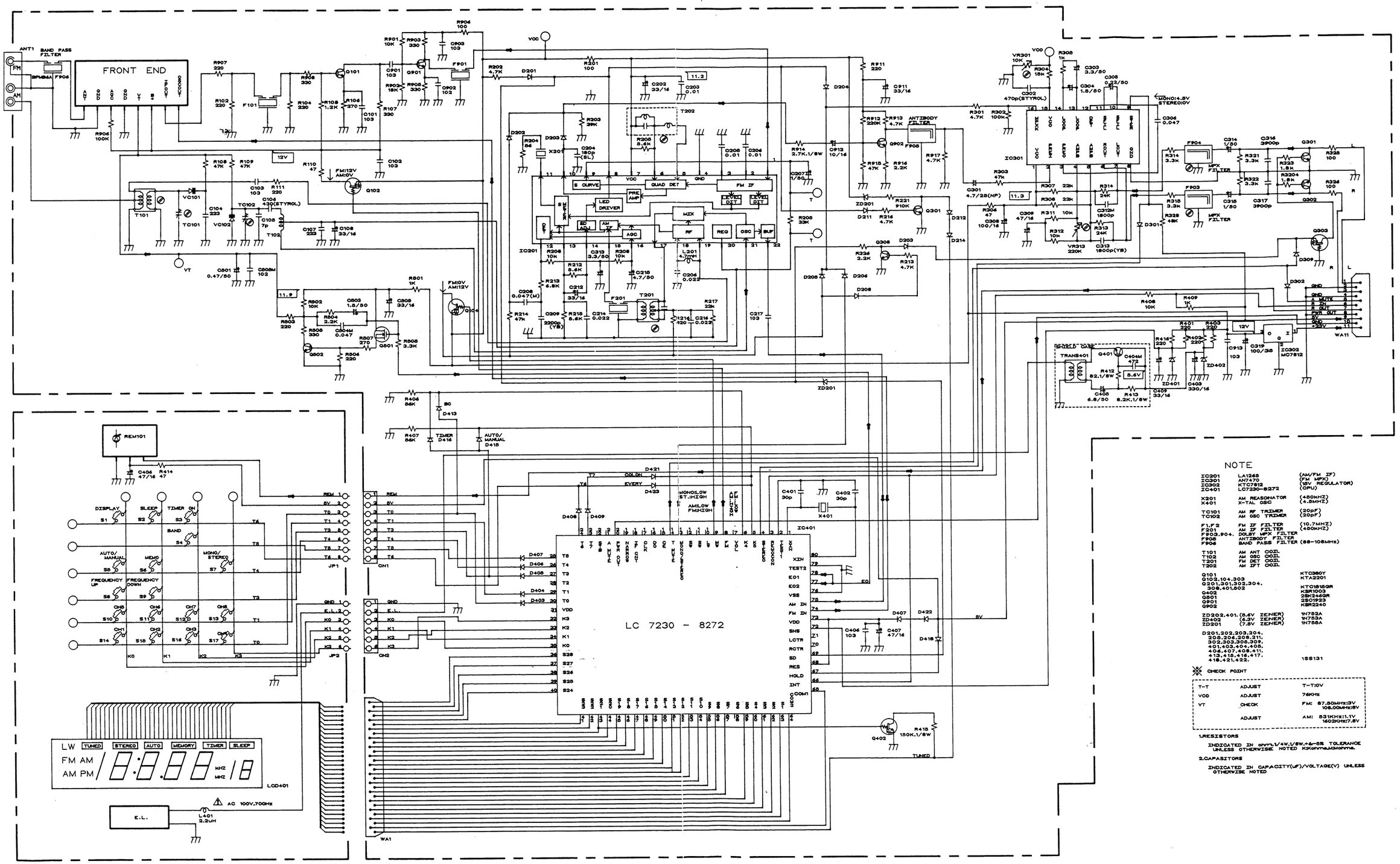
REF.NO.	PARTS NO.	DESCRIPTION
SW1,2,3,4,5,6,7, 9,10,11	220899901	KHH10910
CN101	2168291011	30P,350MM
CN202	216828901	8370−307−000−800 ANG
L102	103422945	2.2μH,AL03(7MM)
JP301	215983001	7P,450MM,P=2
JP302	215983101	2P,300MM,P=2

7. SCHEMETIC DIAGRAM

7-1. AMPLIFIER



7−2. TUNER



NOTE

IC201	LA1268	(AM/FM IF)
IC301	AN7470	(FM MPX)
IC302	KTC7812	(12V REGULATOR)
IC401	LC7230-8272	(CPU)
X201	AM REASONATOR	(450KHZ)
X401	X-TAL OSC	(4.5MHZ)
TC101	AM RF TRIMMER	(20pF)
TC102	AM OSC TRIMMER	(20pF)
F1,F2	FM IF FILTER	(10.7MHZ)
F201	AM IF FILTER	(450KHZ)
F903,904	DOLBY MPX FILTER	
F908	ANTIBODY FILTER	
F906	BAND PASS FILTER	(88−108MHz)
T101	AM ANT COIL	
T102	AM OSC COIL	
T201	FM DET COIL	
T202	AM IFT COIL	
Q101		KTC3880Y
Q102,104,303		KTA2201
Q201,301,302,304, 308,401,502		KTC1815GR
Q402		KSR1003
Q501		2SK2462R
Q901		2SC1923
Q902		KSR2240
ZD202,401,(8.6V ZENER)		1N752A
ZD402 (6.2V ZENER)		1N753A
ZD201 (7.5V ZENER)		1N758A
D201,202,203,204, 205,206,208,211, 302,303,305,309, 401,403,404,405, 406,407,408,411, 412,413,414,417, 418,421,422.		1SS131

※ CHECK POINT

T−T	ADJUST	T−T:0V
VCO	ADJUST	76KHz
VT	CHECK	FM: 87.50MHz:2V 108.00MHz:8V
	ADJUST	AM: 531KHz:1.1V 1602KHz:7.8V

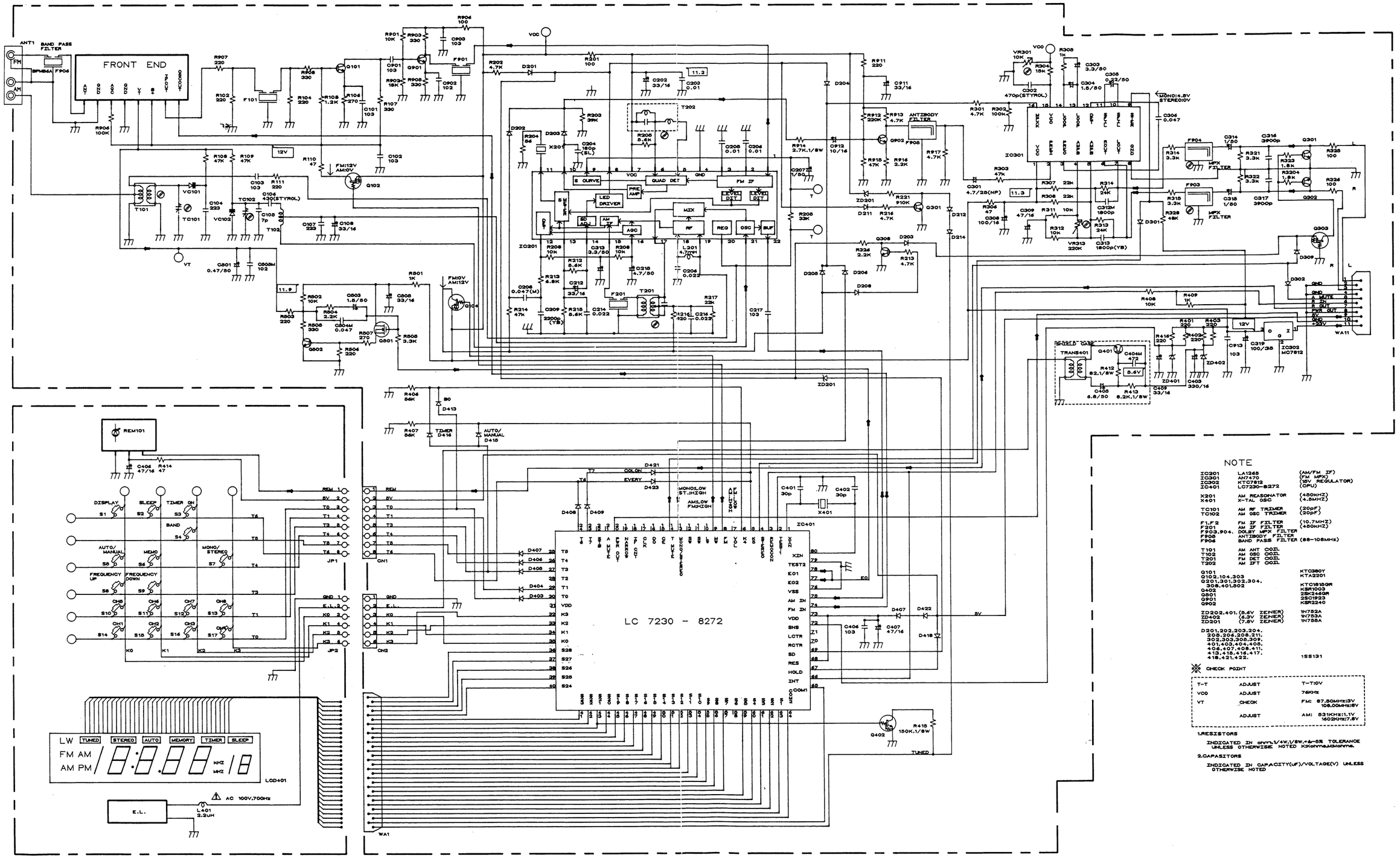
1.RESISTORS

INDICATED IN OHM:Ω,1/4W,1/8W,+&−5% TOLERANCE UNLESS OTHERWISE NOTED K:KOHM,M:MOHM.

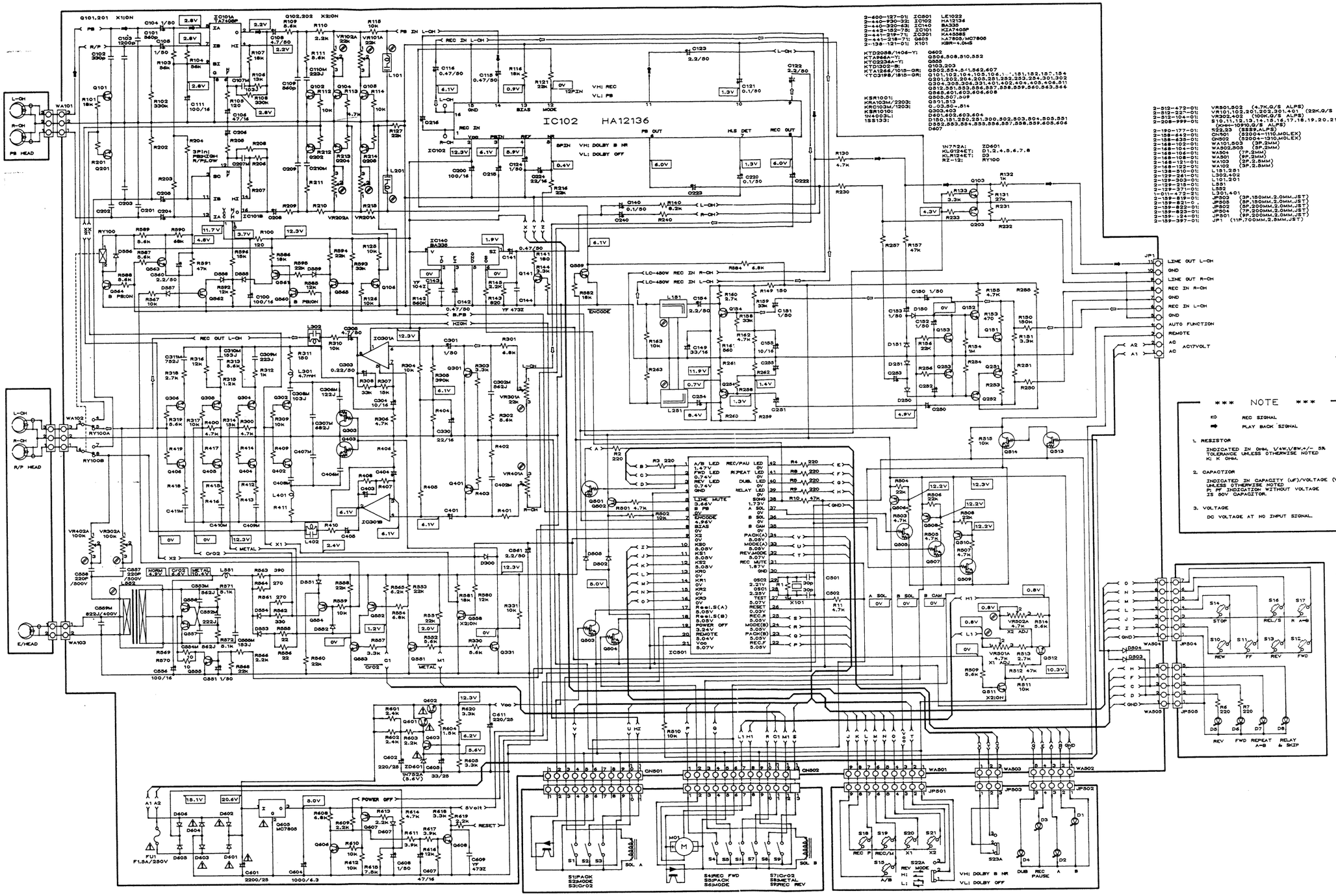
2.CAPASITORS

INDICATED IN CAPACITY(uF)/VOLTAGE(V) UNLESS OTHERWISE NOTED

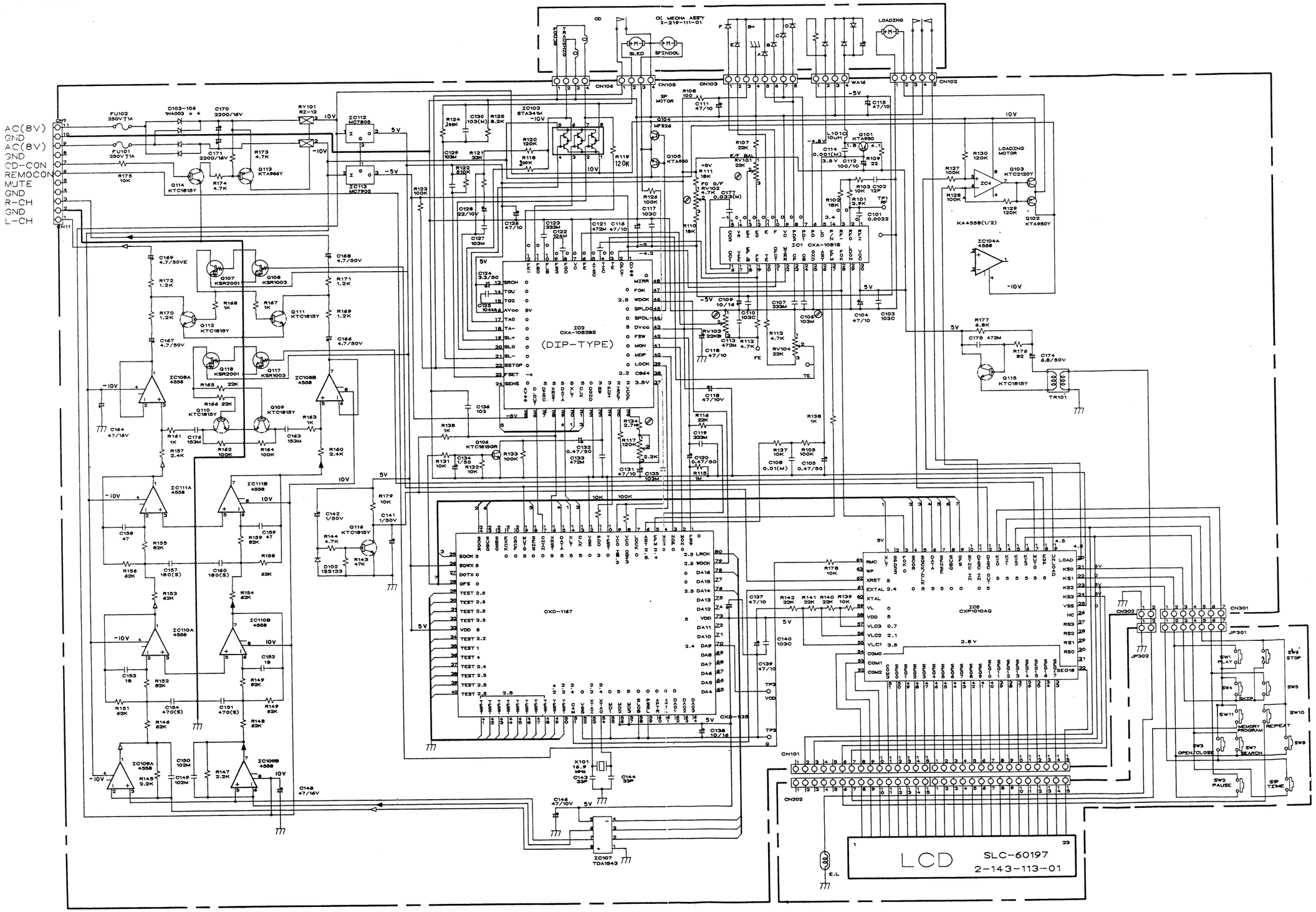
7－2. TUNER


FRONT END
LC 7230 - 8272
IC201 LA1268 (AM/FM IF)
IC301 AN7470 (FM MPX)
IC302 KTC7812 (10V REGULATOR)
IC401 LC7230-8272 (CPU)
X201 AM REASONATOR (450KHZ)
X401 X-TAL OSC (4.5MHZ)
TC101 AM RF TRIMER (20pF)
TC102 AM OSC TRIMER (20pF)
F1,F2 FM IF FILTER (10.7MHZ)
F201 AM IF FILTER (450KHZ)
F903,904 DOLBY MPX FILTER
F905 ANTIBODY FILTER
F906 BAND PASS FILTER (88-108MHz)
T101 AM ANT COIL
T102 AM OSC COIL
T201 FM DET COIL
T202 AM IFT COIL
Q101 KTC3880Y
Q103,104,303 KTA2201
Q201,301,302,304, 308,401,502 KTC1815GR
Q402 KSR1003
Q501 2SK246GR
Q601 2SC1923
Q902 KSR2240
ZD202,401 (6.8V ZENER) 1N753A
ZD402 (6.2V ZENER) 1N753A
ZD201 (7.8V ZENER) 1N758A
D201,202,203,204, 205,206,208,211, 302,303,305,309, 401,403,404,405, 406,407,408,411, 412,416,416,417, 418,421,422. 1SS131
※ CHECK POINT
T-T ADJUST T-T:0V
VCO ADJUST 76KHz
VT CHECK FM: 87.50MHz:3V 108.00MHz:8V
ADJUST AM: 531KHz:1.1V 1602KHz:7.8V
1.RESISTORS
INDICATED IN ohm,1/4W,1/8W,±5% TOLERANCE UNLESS OTHERWISE NOTED K:kohm,M:Mohm.
2.CAPASITORS
INDICATED IN CAPACITY(uF)/VOLTAGE(V) UNLESS OTHERWISE NOTED
REM101
LW FM AM AM PM
TUNED STEREO AUTO MEMORY TIMER SLEEP
KHZ MHZ
LCD401
E.L.
AC 100V,700Hz
L401 2.2uH
WA1
WA11

7-3. STEREO DOUBLE CASSETTE TAPE DECK

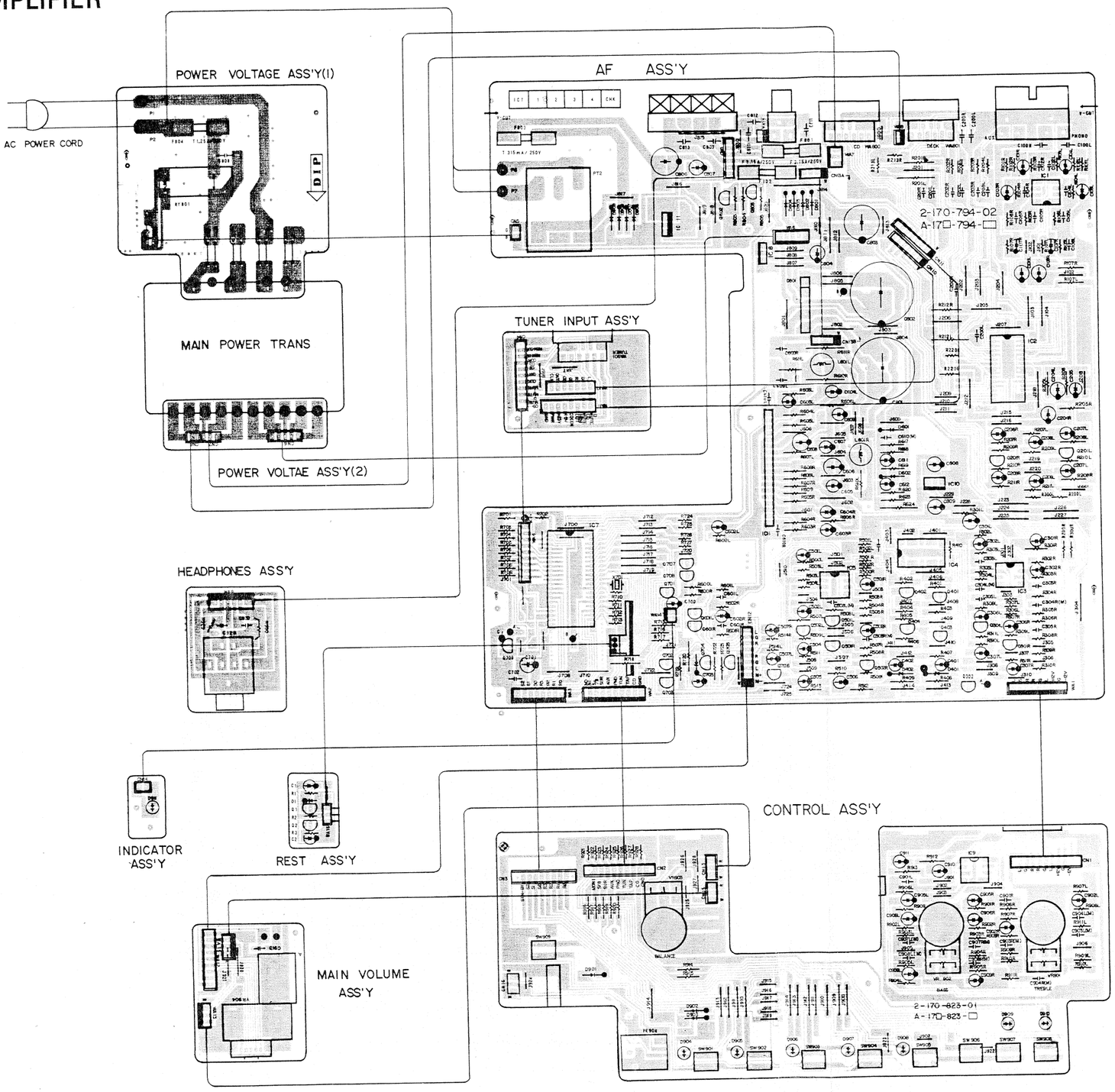


7-4. COMPACT DISC PLAYER

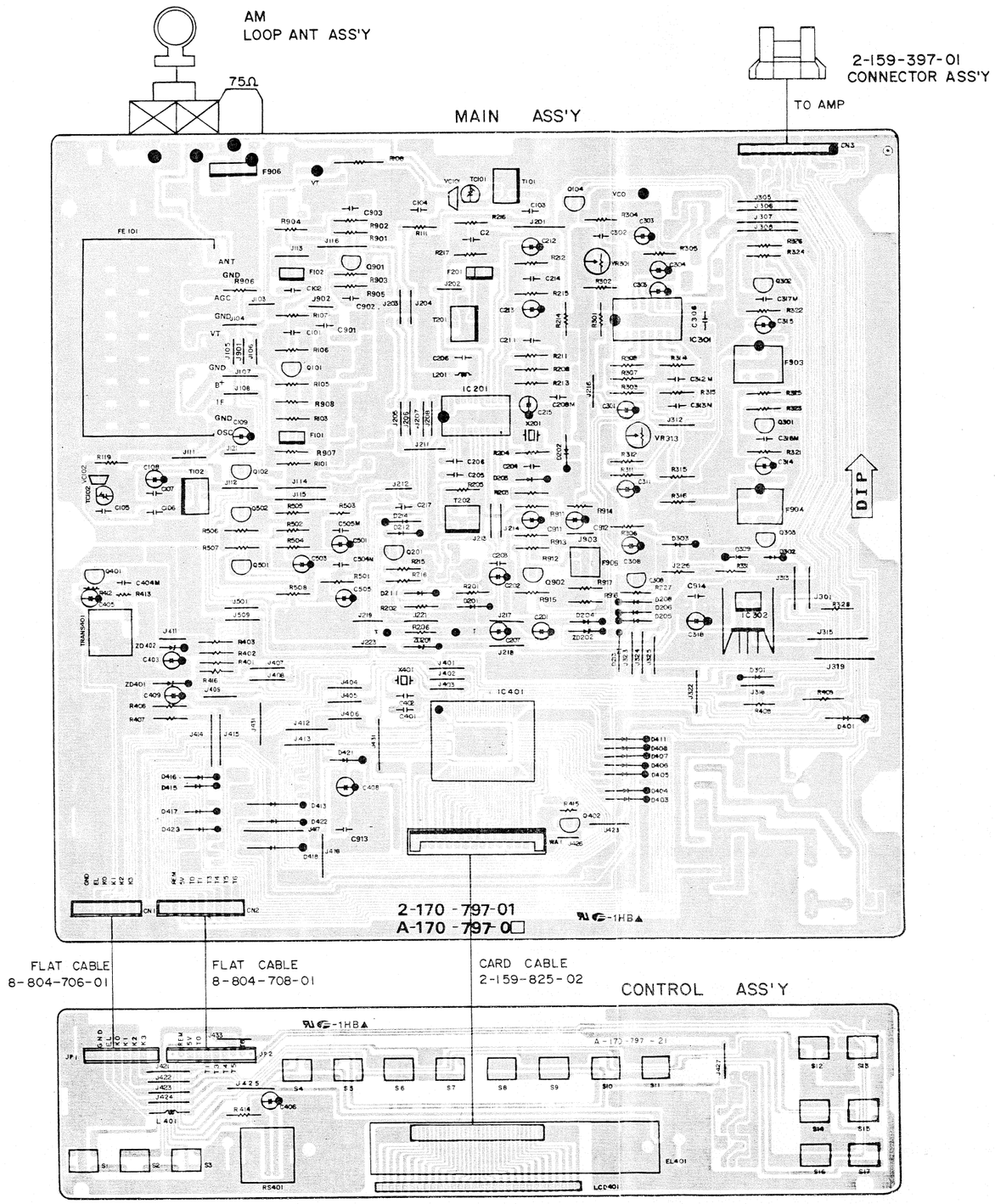


8. P.C BOARDS CONNECTION DIAGRAM

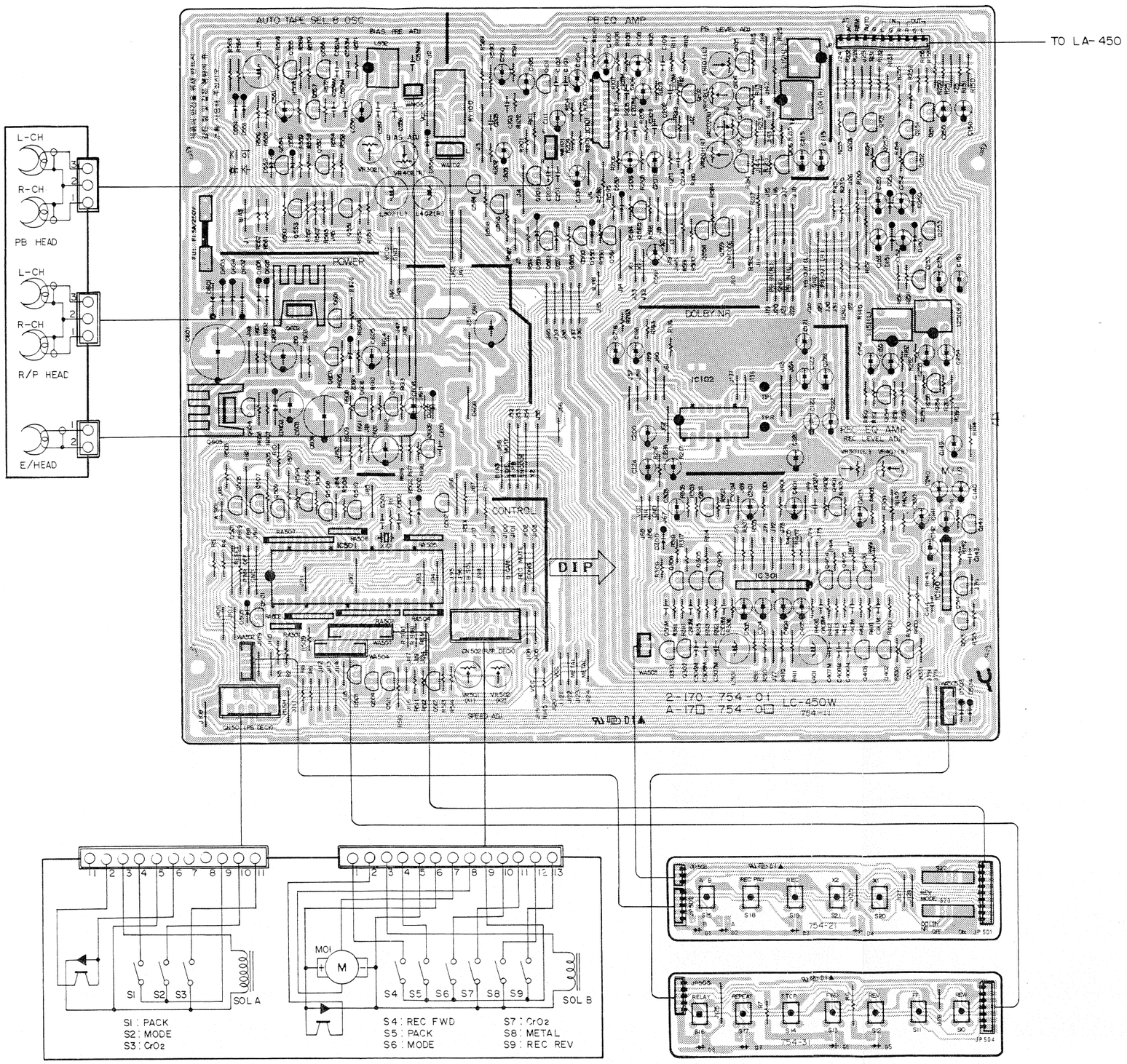
8-1. AMPLIFIER



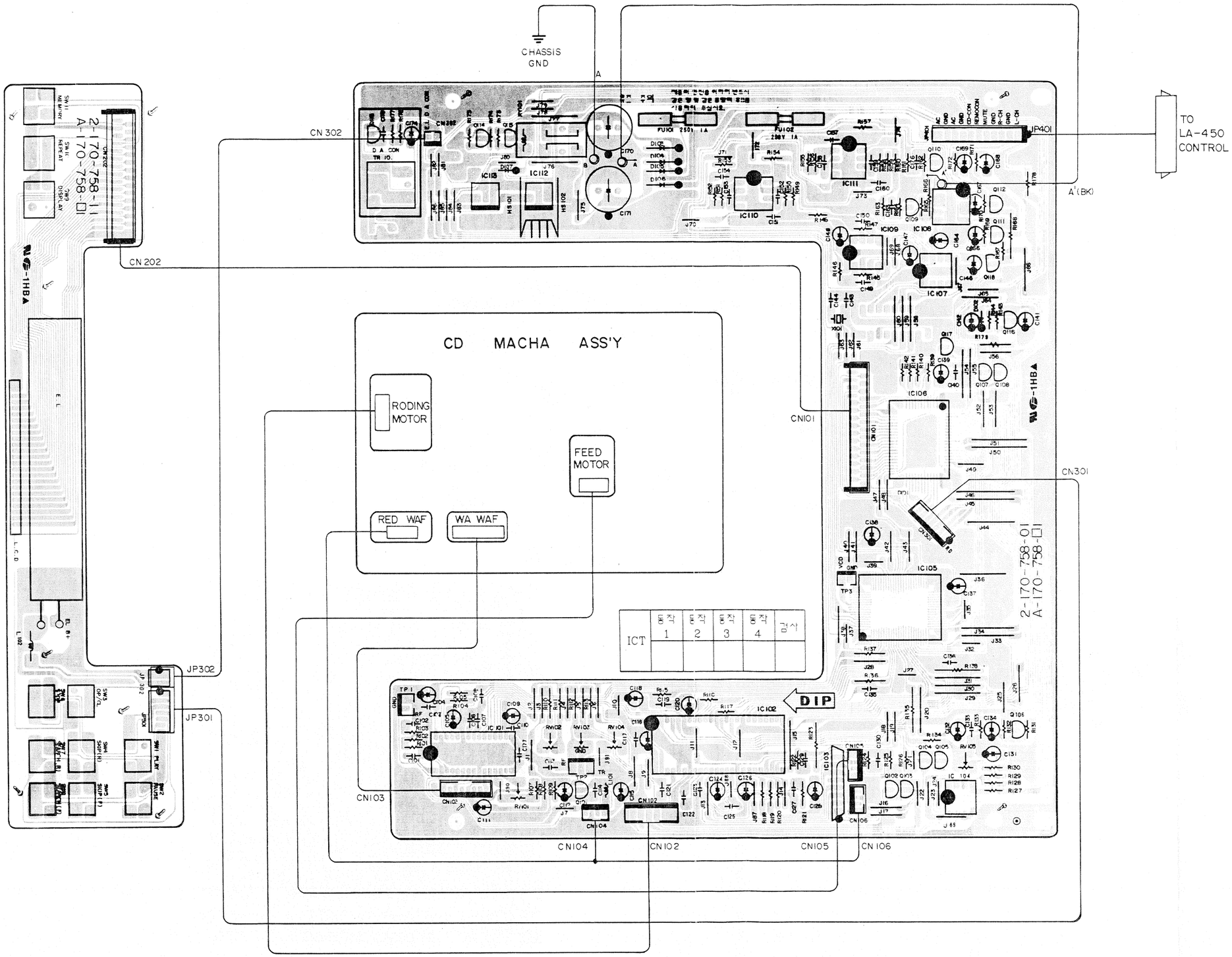
8-2. TUNER


AM
LOOP ANT ASS'Y
75Ω
2-159-397-01
CONNECTOR ASS'Y
TO AMP
MAIN ASS'Y
CN3
DIP
2-170-797-01
A-170-797-0□
-1HB▲
FLAT CABLE
8-804-706-01
FLAT CABLE
8-804-708-01
CARD CABLE
2-159-825-02
CONTROL ASS'Y
A-170-797-21
CN1
CN2
JP1
JP2
RS401
LCD401
EL401

8–3. STEREO DOUBLE CASSETTE TAPE DECK

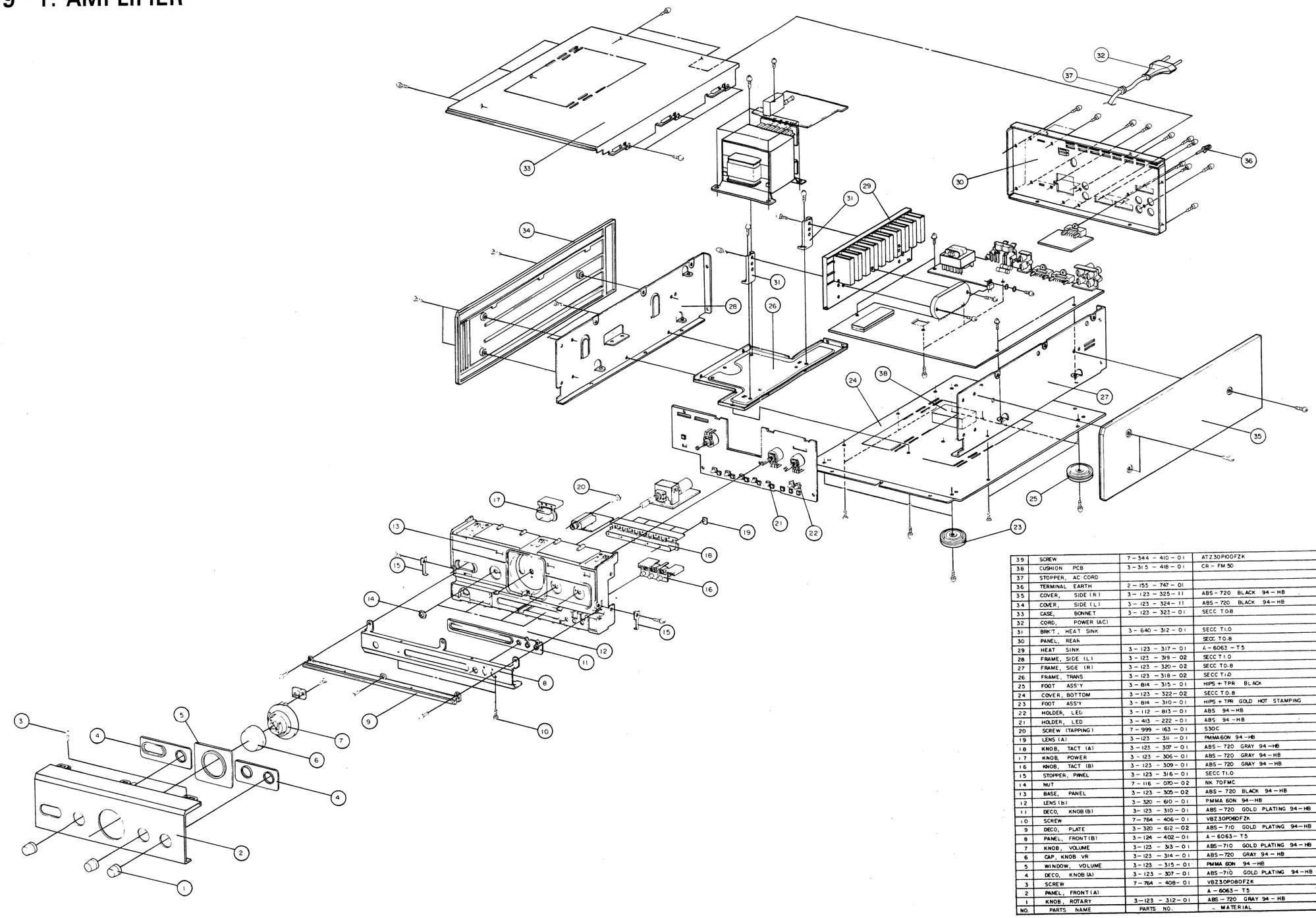


8-4. COMPACT DISC PLAYER



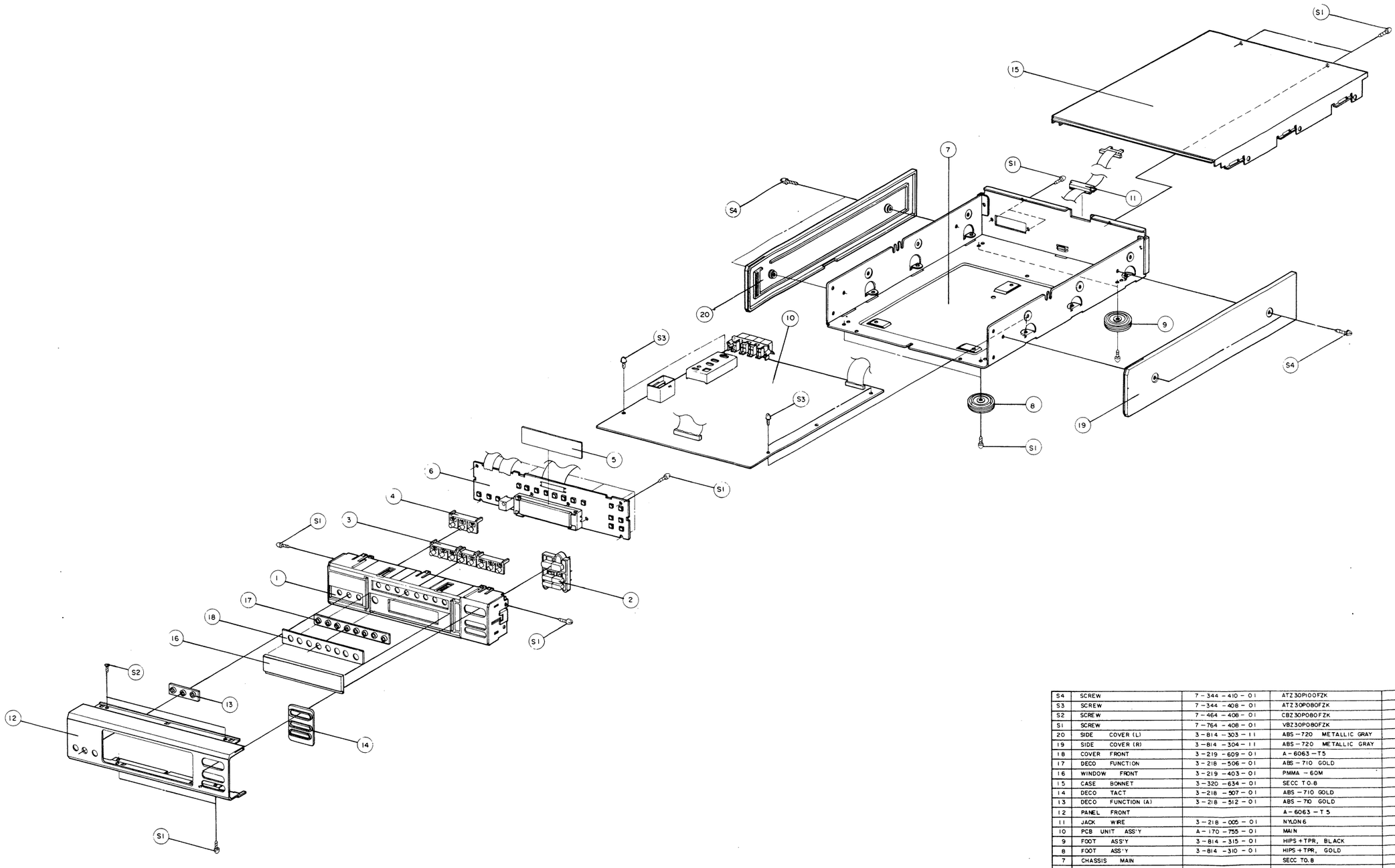
9. EXPLODED VIEW

9-1. AMPLIFIER



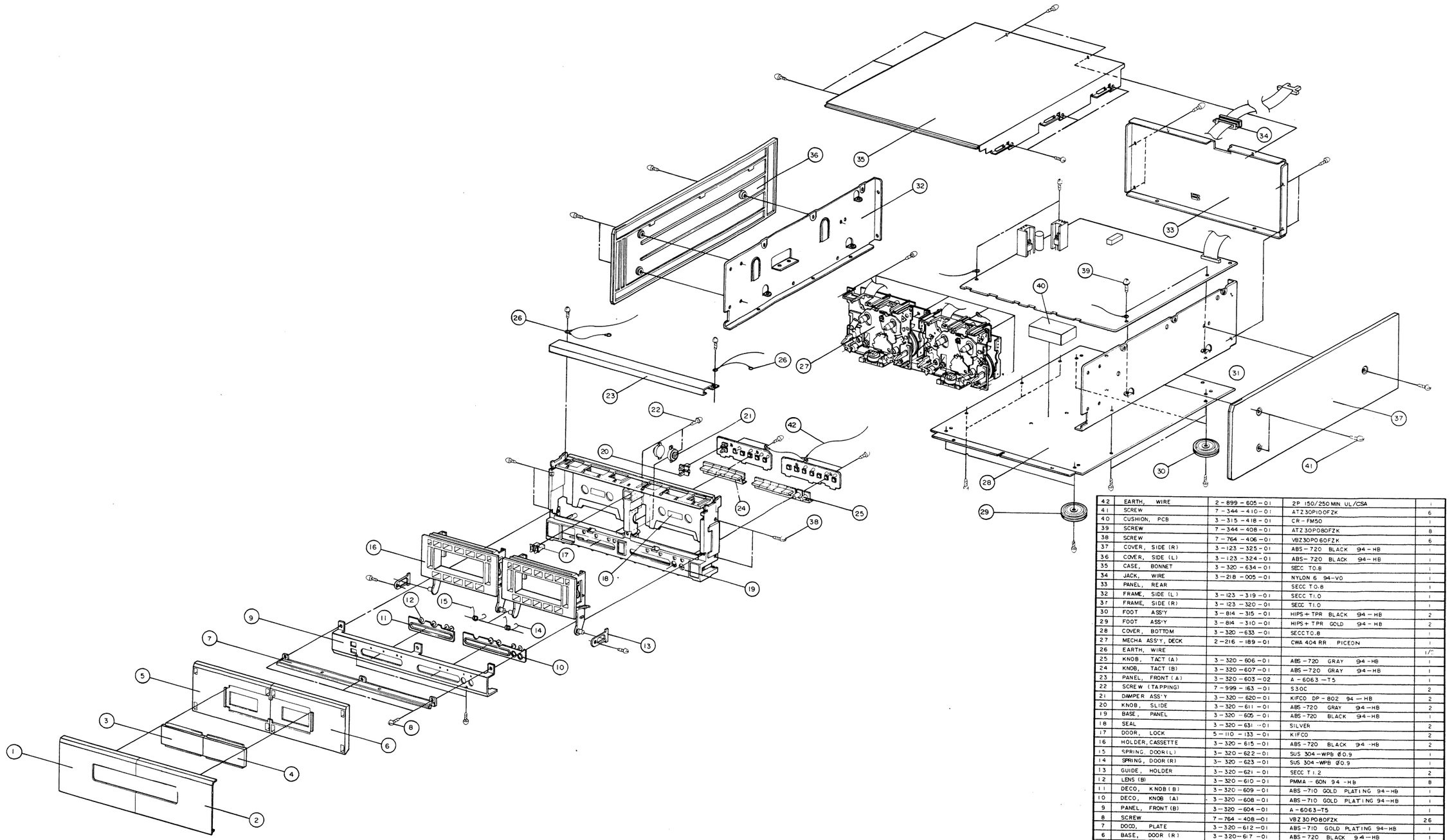
NO.	PARTS NAME	PARTS NO.	MATERIAL	Q'TY
1	KNOB, ROTARY	3-123-312-01	ABS-720 GRAY 94-HB	3
2	PANEL, FRONT(A)		A-6063-T5	1
3	SCREW	7-764-408-01	VBZ30P080FZK	48
4	DECO, KNOB(A)	3-123-307-01	ABS-710 GOLD PLATING 94-HB	1
5	WINDOW, VOLUME	3-123-315-01	PMMA 60N 94-HB	1
6	CAP, KNOB VR	3-123-314-01	ABS-720 GRAY 94-HB	1
7	KNOB, VOLUME	3-123-313-01	ABS-710 GOLD PLATING 94-HB	1
8	PANEL, FRONT(B)	3-124-402-01	A-6063-T5	1
9	DECO, PLATE	3-320-612-02	ABS-710 GOLD PLATING 94-HB	1
10	SCREW	7-764-406-01	VBZ30P060FZK	2
11	DECO, KNOB(B)	3-123-310-01	ABS-720 GOLD PLATING 94-HB	1
12	LENS(b)	3-320-610-01	PMMA 60N 94-HB	2
13	BASE, PANEL	3-123-305-02	ABS-720 BLACK 94-HB	1
14	NUT	7-116-070-02	NK 70FMC	4
15	STOPPER, PANEL	3-123-316-01	SECC T1.0	2
16	KNOB, TACT (B)	3-123-309-01	ABS-720 GRAY 94-HB	1
17	KNOB, POWER	3-123-306-01	ABS-720 GRAY 94-HB	1
18	KNOB, TACT (A)	3-123-307-01	ABS-720 GRAY 94-HB	1
19	LENS (A)	3-123-311-01	PMMA60N 94-HB	5
20	SCREW (TAPPING)	7-999-163-01	S30C	1
21	HOLDER, LED	3-413-222-01	ABS 94-HB	5
22	HOLDER, LED	3-112-813-01	ABS 94-HB	2
23	FOOT ASS'Y	3-614-310-01	HIPS+TPR GOLD HOT STAMPING	2
24	COVER, BOTTOM	3-123-322-02	SECC T0.8	1
25	FOOT ASS'Y	3-614-315-01	HIPS+TPR BLACK	2
26	FRAME, TRANS	3-123-318-02	SECC T1.0	1
27	FRAME, SIDE (R)	3-123-320-02	SECC T0.8	1
28	FRAME, SIDE (L)	3-123-319-02	SECC T1.0	1
29	HEAT SINK	3-123-317-01	A-6063-T5	1
30	PANEL, REAR		SECC T0.8	1
31	BRK'T, HEAT SINK	3-640-312-01	SECC T1.0	2
32	CORD, POWER (AC)			1
33	CASE, BONNET	3-123-323-01	SECC T0.8	1
34	COVER, SIDE (L)	3-123-324-11	ABS-720 BLACK 94-HB	1
35	COVER, SIDE (R)	3-123-325-11	ABS-720 BLACK 94-HB	1
36	TERMINAL EARTH	2-155-747-01		1
37	STOPPER, AC CORD			1
38	CUSHION PCB	3-315-418-01	CR-FM50	1
39	SCREW	7-344-410-01	ATZ30P100FZK	6

9-2. TUNER



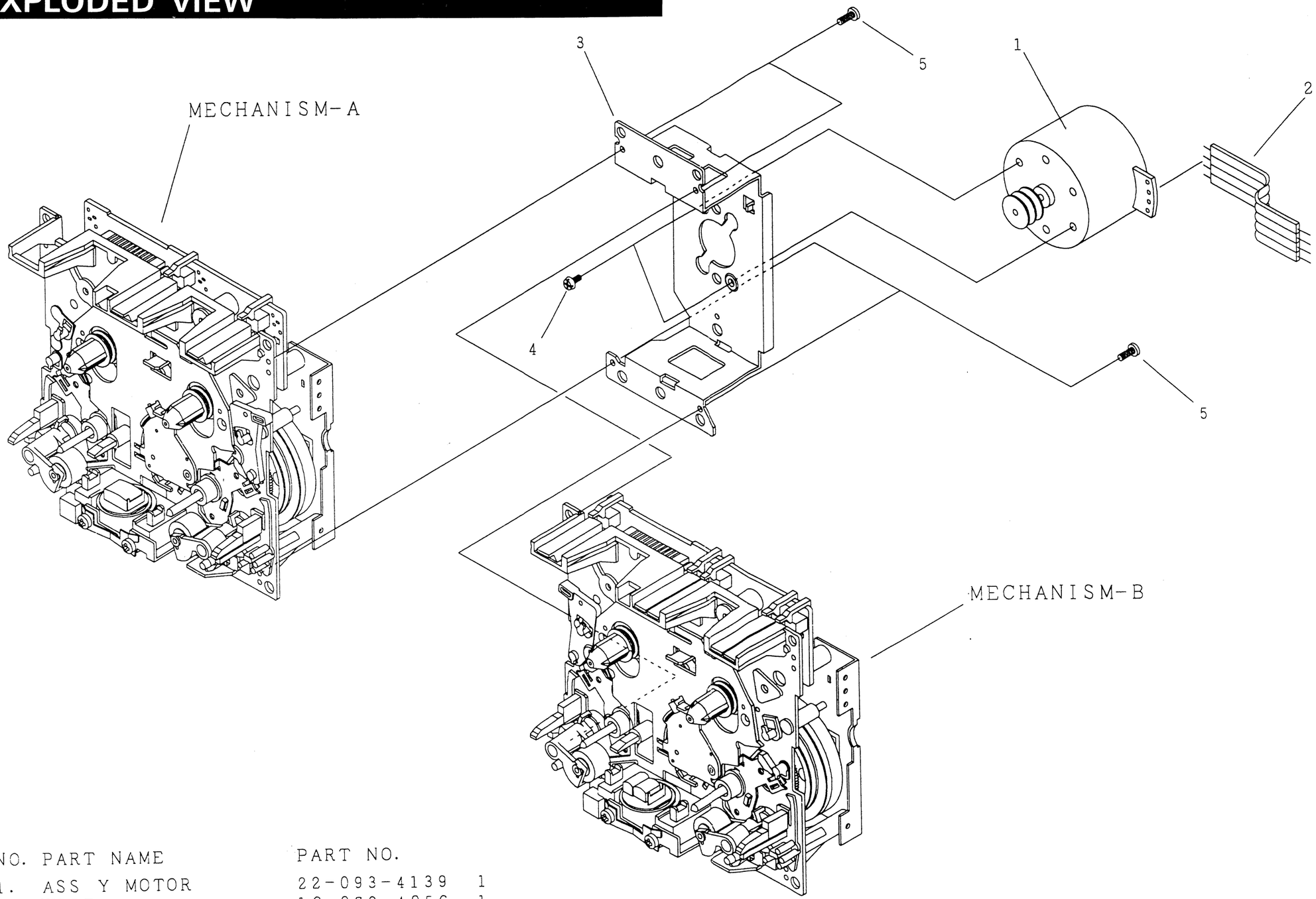
S4	SCREW	7-344-410-01	ATZ30P100FZK	4
S3	SCREW	7-344-408-01	ATZ30P080FZK	4
S2	SCREW	7-464-408-01	CBZ30P080FZK	2
S1	SCREW	7-764-408-01	VBZ30P080FZK	18
20	SIDE COVER (L)	3-814-303-11	ABS-720 METALLIC GRAY	1
19	SIDE COVER (R)	3-814-304-11	ABS-720 METALLIC GRAY	1
18	COVER FRONT	3-219-609-01	A-6063-T5	1
17	DECO FUNCTION	3-218-506-01	ABS-710 GOLD	1
16	WINDOW FRONT	3-219-403-01	PMMA-60M	1
15	CASE BONNET	3-320-634-01	SECC T0.8	1
14	DECO TACT	3-218-507-01	ABS-710 GOLD	1
13	DECO FUNCTION (A)	3-218-512-01	ABS-710 GOLD	1
12	PANEL FRONT		A-6063-T5	1
11	JACK WIRE	3-218-005-01	NYLON 6	1
10	PCB UNIT ASS'Y	A-170-755-01	MAIN	1
9	FOOT ASS'Y	3-814-315-01	HIPS+TPR, BLACK	2
8	FOOT ASS'Y	3-814-310-01	HIPS+TPR, GOLD	2
7	CHASSIS MAIN		SECC T0.8	1
6	PCB UNIT ASS'Y	A-170-755-01	CONTROL	1
5	FILTER	3-218-515-01	PVC	1
4	KNOB FUNCTION (I)	3-218-513-01	ABS-720 GRAY	1
3	KNOB FUNCTION	3-218-505-01	ABS-720 GRAY	1
2	KNOB TACT	3-218-504-01	ABS-720 GRAY	1
1	PANEL BASE	3-218-502-02	ABS-720	1
NO.	PARTS NAME	PARTS NO.	MATERIAL	Q'TY

9—3. STEREO DOUBLE CASSETTE TAPE DECK



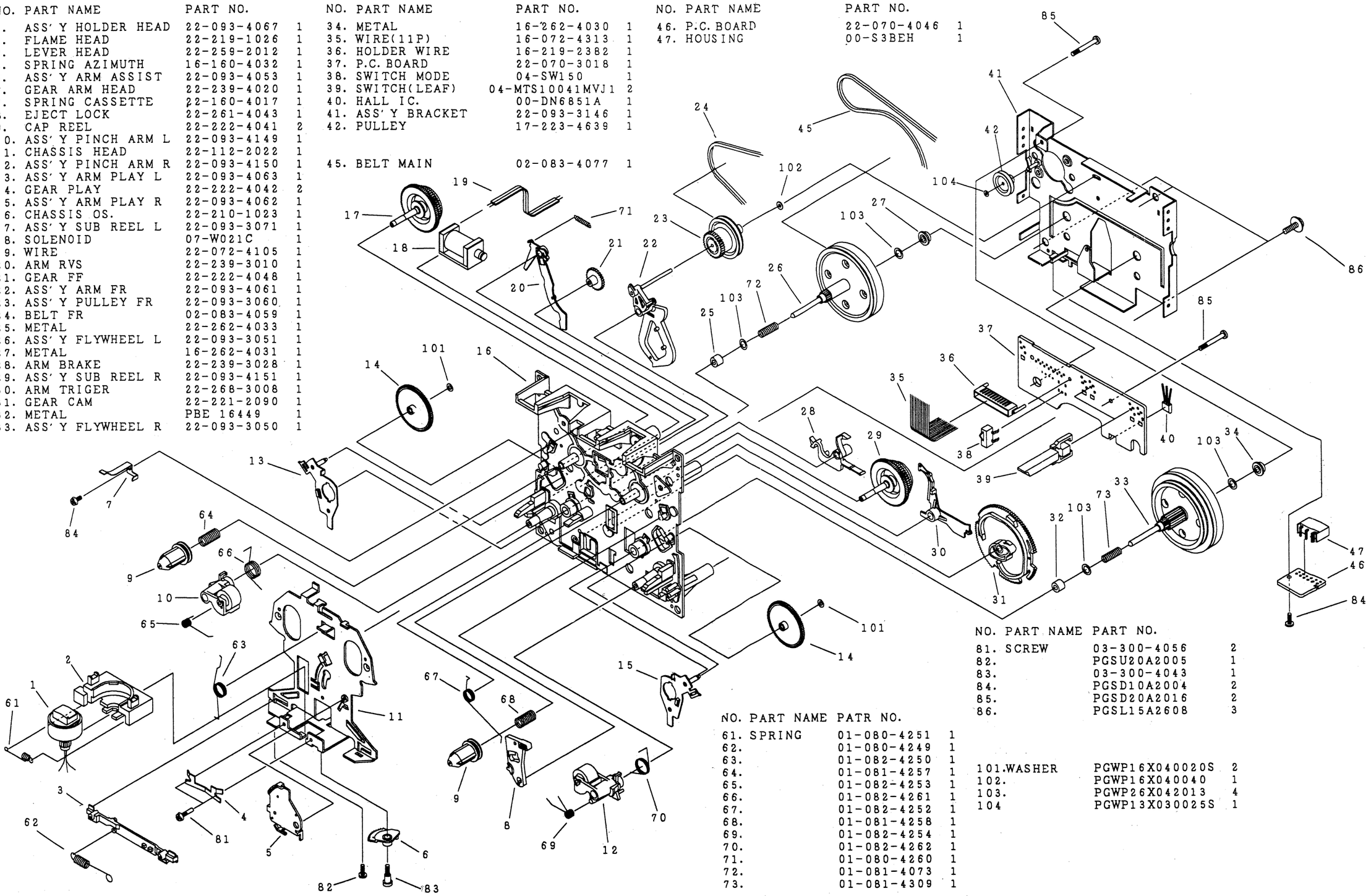
NO.	PARTS NAME	PARTS NO.	MATERIAL	Q'TY
42	EARTH, WIRE	2-899-605-01	2P 150/250 MIN. UL/CSA	1
41	SCREW	7-344-410-01	ATZ30P100FZK	6
40	CUSHION, PCB	3-315-418-01	CR-FM50	1
39	SCREW	7-344-408-01	ATZ30P080FZK	8
38	SCREW	7-764-406-01	VBZ30P060FZK	6
37	COVER, SIDE (R)	3-123-325-01	ABS-720 BLACK 94-HB	1
36	COVER, SIDE (L)	3-123-324-01	ABS-720 BLACK 94-HB	1
35	CASE, BONNET	3-320-634-01	SECC T0.8	1
34	JACK, WIRE	3-218-005-01	NYLON 6 94-V0	1
33	PANEL, REAR		SECC T0.8	1
32	FRAME, SIDE (L)	3-123-319-01	SECC T1.0	1
31	FRAME, SIDE (R)	3-123-320-01	SECC T1.0	1
30	FOOT ASS'Y	3-814-315-01	HIPS+TPR BLACK 94-HB	2
29	FOOT ASS'Y	3-814-310-01	HIPS+TPR GOLD 94-HB	2
28	COVER, BOTTOM	3-320-633-01	SECC T0.8	1
27	MECHA ASS'Y, DECK	2-216-189-01	CWA 404 RR PICEON	1
26	EARTH, WIRE			1/2
25	KNOB, TACT (A)	3-320-606-01	ABS-720 GRAY 94-HB	1
24	KNOB, TACT (B)	3-320-607-01	ABS-720 GRAY 94-HB	1
23	PANEL, FRONT (A)	3-320-603-02	A-6063-T5	1
22	SCREW (TAPPING)	7-999-163-01	S30C	2
21	DAMPER ASS'Y	3-320-620-01	KIFCO DP-802 94-HB	2
20	KNOB, SLIDE	3-320-611-01	ABS-720 GRAY 94-HB	2
19	BASE, PANEL	3-320-605-01	ABS-720 BLACK 94-HB	1
18	SEAL	3-320-631-01	SILVER	2
17	DOOR, LOCK	5-110-133-01	KIFCO	2
16	HOLDER, CASSETTE	3-320-615-01	ABS-720 BLACK 94-HB	2
15	SPRING, DOOR (L)	3-320-622-01	SUS 304-WPB Ø0.9	1
14	SPRING, DOOR (R)	3-320-623-01	SUS 304-WPB Ø0.9	1
13	GUIDE, HOLDER	3-320-621-01	SECC T1.2	2
12	LENS (B)	3-320-610-01	PMMA-60N 94-HB	8
11	DECO, KNOB (B)	3-320-609-01	ABS-710 GOLD PLATING 94-HB	1
10	DECO, KNOB (A)	3-320-608-01	ABS-710 GOLD PLATING 94-HB	1
9	PANEL, FRONT (B)	3-320-604-01	A-6063-T5	1
8	SCREW	7-764-408-01	VBZ30P080FZK	26
7	DECO, PLATE	3-320-612-01	ABS-710 GOLD PLATING 94-HB	1
6	BASE, DOOR (R)	3-320-617-01	ABS-720 BLACK 94-HB	1
5	BASE, DOOR (L)	3-320-616-01	ABS-720 BLACK 94-HB	1
4	WINDOW DOOR (R)	3-320-619-01	PMMA 60N 94-HB	1
3	WINDOW DOOR (L)	3-320-618-01	PMMA 60N 94-HB	1
2	PANEL, DOOR (R)		A-6063-T5	1
1	PANEL, DOOR (L)		A-6063-T5	1

EXPLODED VIEW



NO.	PART NAME	PART NO.	
1.	ASS Y MOTOR	22-093-4139	1
2.	WIRE	16-072-4056	1
3.	BRACKET MOTOR	22-119-3091	1
4.	SCREW	PGSP11A2604	2
5	SCREW	PGSD10A2004	4

NO.	PART NAME	PART NO.	
1.	ASS' Y HOLDER HEAD	22-093-4067	1
2.	FLAME HEAD	22-219-1026	1
3.	LEVER HEAD	22-259-2012	1
4.	SPRING AZIMUTH	16-160-4032	1
5.	ASS' Y ARM ASSIST	22-093-4053	1
6.	GEAR ARM HEAD	22-239-4020	1
7.	SPRING CASSETTE	22-160-4017	1
8.	EJECT LOCK	22-261-4043	1
9.	CAP REEL	22-222-4041	2
10.	ASS' Y PINCH ARM L	22-093-4149	1
11.	CHASSIS HEAD	22-112-2022	1
12.	ASS' Y PINCH ARM R	22-093-4150	1
13.	ASS' Y ARM PLAY L	22-093-4063	1
14.	GEAR PLAY	22-222-4042	2
15.	ASS' Y ARM PLAY R	22-093-4062	1
16.	CHASSIS OS.	22-210-1023	1
17.	ASS' Y SUB REEL L	22-093-3071	1
18.	SOLENOID	07-W021C	1
19.	WIRE	22-072-4105	1
20.	ARM RVS	22-239-3010	1
21.	GEAR FF	22-222-4048	1
22.	ASS' Y ARM FR	22-093-4061	1
23.	ASS' Y PULLEY FR	22-093-3060	1
24.	BELT FR	02-083-4059	1
25.	METAL	22-262-4033	1
26.	ASS' Y FLYWHEEL L	22-093-3051	1
27.	METAL	16-262-4031	1
28.	ARM BRAKE	22-239-3028	1
29.	ASS' Y SUB REEL R	22-093-4151	1
30.	ARM TRIGER	22-268-3008	1
31.	GEAR CAM	22-221-2090	1
32.	METAL	PBE 16449	1
33.	ASS' Y FLYWHEEL R	22-093-3050	1
34.	METAL	16-262-4030	1
35.	WIRE(11P)	16-072-4313	1
36.	HOLDER WIRE	16-219-2382	1
37.	P.C. BOARD	22-070-3018	1
38.	SWITCH MODE	04-SW150	1
39.	SWITCH(LEAF)	04-MTS10041MVJ1	2
40.	HALL IC.	00-DN6851A	1
41.	ASS' Y BRACKET	22-093-3146	1
42.	PULLEY	17-223-4639	1
45.	BELT MAIN	02-083-4077	1
46.	P.C. BOARD	22-070-4046	1
47.	HOUSING	00-S3BEH	1



NO.	PART NAME	PATR NO.	
61.	SPRING	01-080-4251	1
62.		01-080-4249	1
63.		01-082-4250	1
64.		01-081-4257	1
65.		01-082-4253	1
66.		01-082-4261	1
67.		01-082-4252	1
68.		01-081-4258	1
69.		01-082-4254	1
70.		01-082-4262	1
71.		01-080-4260	1
72.		01-081-4073	1
73.		01-081-4309	1

NO.	PART NAME	PART NO.	
81.	SCREW	03-300-4056	2
82.		PGSU20A2005	1
83.		03-300-4043	1
84.		PGSD10A2004	2
85.		PGSD20A2016	2
86.		PGSL15A2608	3
101.	WASHER	PGWP16X040020S	2
102.		PGWP16X040040	1
103.		PGWP26X042013	4
104		PGWP13X030025S	1

NO.	PART NAME	PART NO.	
1.	ASS'Y HOLDER HEAD	22-093-4054	1
2.	FLAME HEAD	22-219-1026	1
3.	LEVER HEAD	22-259-2012	1
4.	SPRING AZIMUTH	16-160-4032	1
5.	ASS'Y ARM ASSIST	22-093-4053	1
6.	GEAR ARM HEAD	22-239-4020	1
7.	SPRING CASSETTE	22-160-4017	1
8.	EJECT LOCK	22-261-4043	1
9.	CAP REEL	22-222-4041	2
10.	ASS'Y PINCH ARM L	22-093-4149	1
11.	CHASSIS HEAD	22-112-2022	1
12.	ASS'Y PINCH ARM R	22-093-4150	1
13.	ASS'Y ARM PLAY L	22-093-4063	1
14.	GEAR PLAY	22-222-4042	2
15.	ASS'Y ARM PLAY R	22-093-4062	1
16.	CHASSIS OS.	22-210-1023	1
17.	ASS'Y SUB REEL L	22-093-3071	1
18.	SOLENOID	07-W021C	1
19.	WIRE	22-072-4105	1
20.	ARM RVS	22-239-3010	1
21.	GEAR FF	22-222-4048	1
22.	ASS'Y ARM FR	22-093-4061	1
23.	ASS'Y PULLEY FR	22-093-3060	1
24.	BELT FR	02-083-4059	1
25.	METAL	22-262-4033	1
26.	ASS'Y FLYWHEEL L2	22-093-3142	1
27.	METAL	16-262-4031	1
28.	ARM BRAKE	22-239-3028	1
29.	ASS'Y SUB REEL R	22-093-4151	1
30.	ARM TRIGER	22-268-3008	1
31.	GEAR CAM	22-221-2090	1
32.	METAL	PBE 16449	1
33.	ASS'Y FLYWHEEL R2	22-093-3141	1

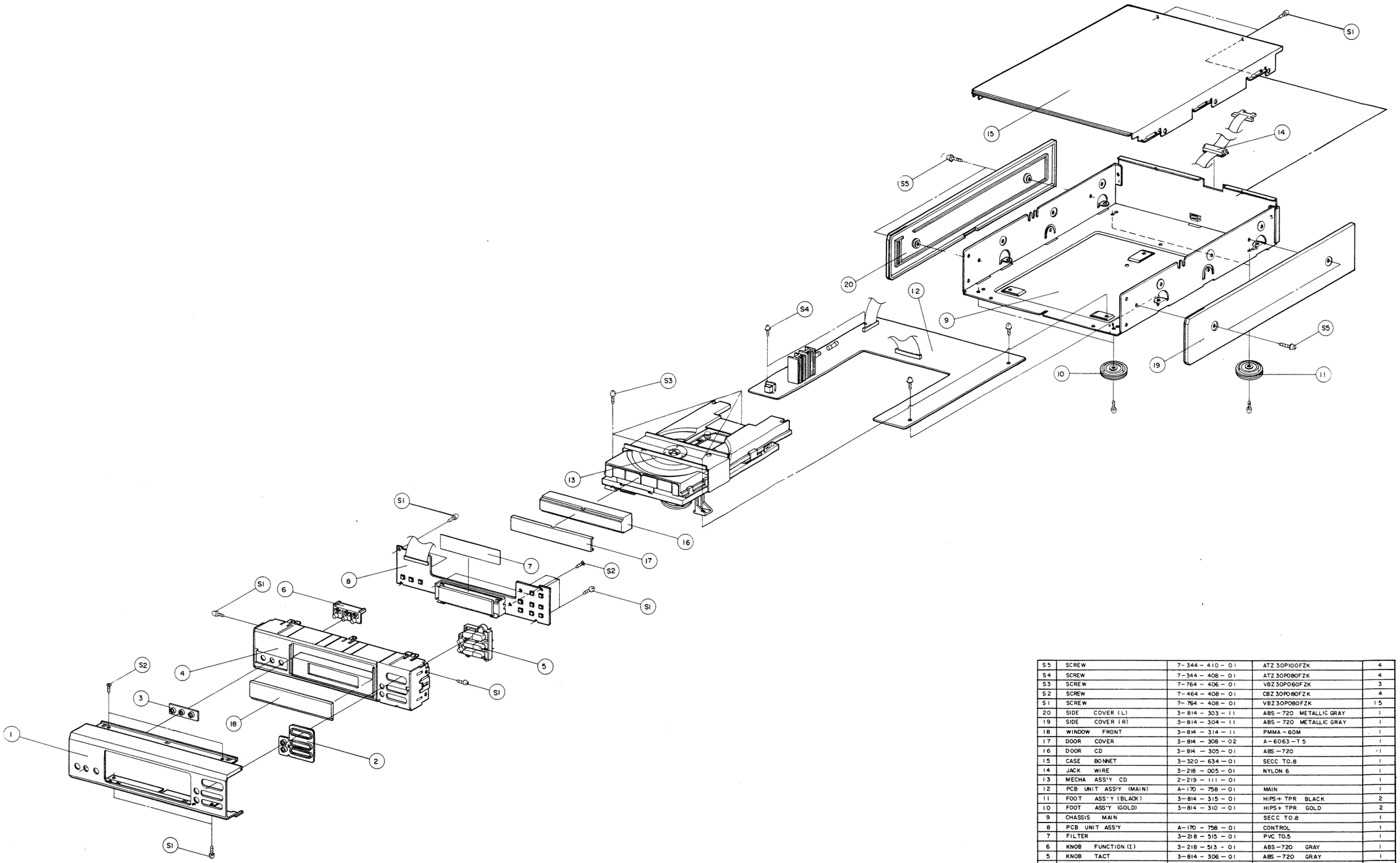
NO.	PART NAME	PART NO.	
34.	METAL	16-262-4030	1
35.	WIRE(13P)	22-072-4080	1
36.	HOLDER WIRE	16-219-2382	1
37.	P.C. BOARD	22-070-3018	1
38.	SWITCH MODE	04-SW150	1
39.	SWITCH(LEAF)	04-MTS10041MVJ1	5
40.	HALL IC.	00-DN6851A	1
41.	BRACKET FW	22-119-2016	1
45.	BELT MAIN	02-083-4076	1

NO.	PART NAME	PART NO.	
46.	P.C. BOARD	22-070-4046	1
47.	HOUSING	00-S5BEH	1

NO.	PART NAME	PATR NO.	
61.	SPRING	01-080-4251	1
62.		01-080-4249	1
63.		01-082-4250	1
64.		01-081-4257	1
65.		01-082-4253	1
66.		01-082-4262	1
67.		01-082-4252	1
68.		01-081-4258	1
69.		01-082-4254	1
70.		01-082-4261	1
71.		01-080-4260	1
72.		01-081-4073	1
73.		01-081-4309	1

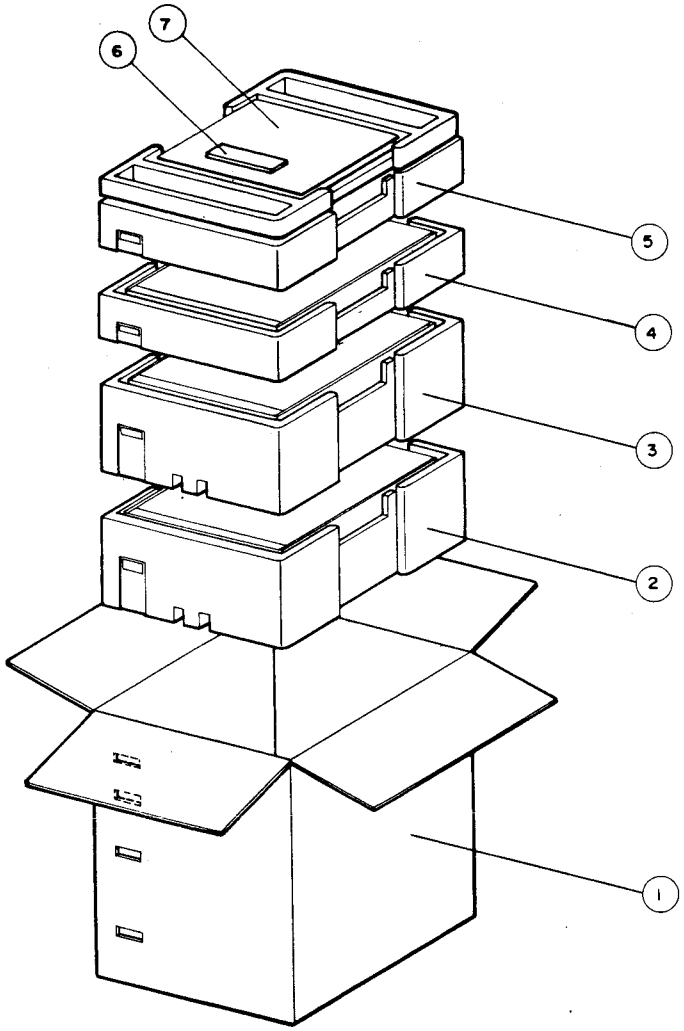
NO.	PART NAME	PART NO.	
81.	SCREW	03-300-4056	2
82.		PGSU20A2005	1
83.		03-300-4043	1
84.		PGSD10A2004	2
85.		PGSD20A2016	2
86.		PGSL15A2608	3
101.	WASHER	PGWP16X040020S	2
102.		PGWP16X040040	1
103.		PGWP26X042013	4

9-4. COMPACT DISC PLAYER



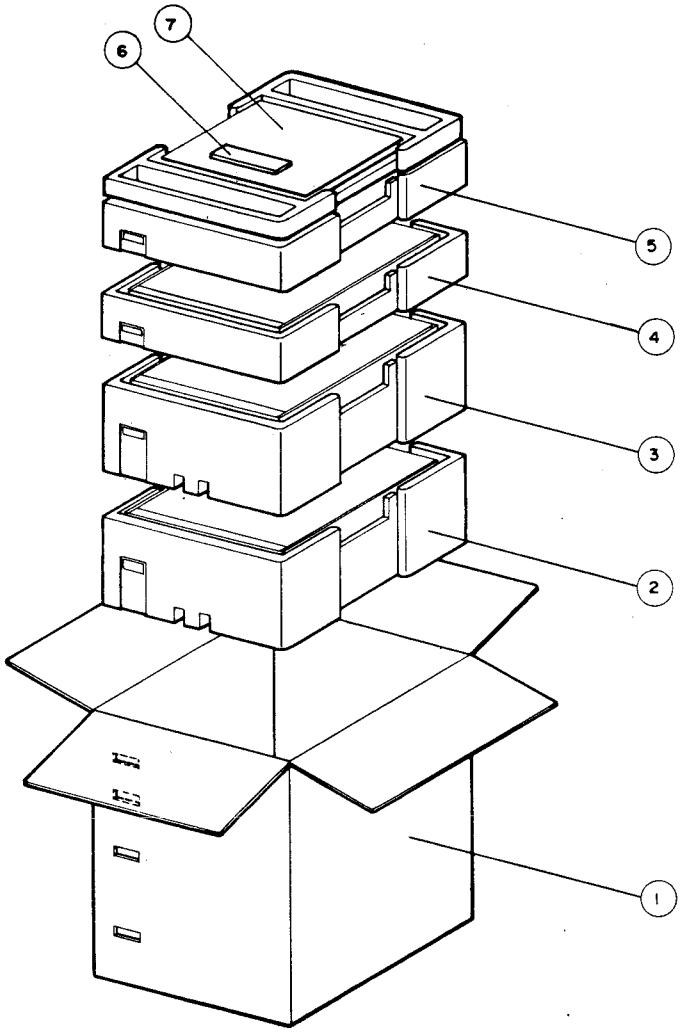
S5	SCREW	7-344-410-01	ATZ30P100FZK	4
S4	SCREW	7-344-408-01	ATZ30P080FZK	4
S3	SCREW	7-764-406-01	VBZ30P060FZK	3
S2	SCREW	7-464-408-01	CBZ30P080FZK	4
S1	SCREW	7-764-408-01	VBZ30P080FZK	15
20	SIDE COVER (L)	3-814-303-11	ABS-720 METALLIC GRAY	1
19	SIDE COVER (R)	3-814-304-11	ABS-720 METALLIC GRAY	1
18	WINDOW FRONT	3-814-314-11	PMMA-60M	1
17	DOOR COVER	3-814-308-02	A-6063-T5	1
16	DOOR CD	3-814-305-01	ABS-720	1
15	CASE BONNET	3-320-634-01	SECC TO.8	1
14	JACK WIRE	3-218-005-01	NYLON 6	1
13	MECHA ASS'Y CD	2-219-111-01		1
12	PCB UNIT ASS'Y (MAIN)	A-170-758-01	MAIN	1
11	FOOT ASS'Y (BLACK)	3-814-315-01	HIPS+TPR BLACK	2
10	FOOT ASS'Y (GOLD)	3-814-310-01	HIPS+TPR GOLD	2
9	CHASSIS MAIN		SECC TO.8	1
8	PCB UNIT ASS'Y	A-170-758-01	CONTROL	1
7	FILTER	3-218-515-01	PVC TO.5	1
6	KNOB FUNCTION (I)	3-218-513-01	ABS-720 GRAY	1
5	KNOB TACT	3-814-306-01	ABS-720 GRAY	1
4	PANEL BASE	3-814-302-02	ABS-720	1
3	DECO FUNCTION (A)	3-218-512-01	ABS-710, GOLD	1
2	DECO TACT	3-814-307-01	ABS-710 GOLD	1
1	PANEL FRONT		A-6063-T5	1
NO.	PARTS NAME	PARTS NO.	MATERIAL	Q'TY

10. PACKING



NO.	PARTS NAME	PARTS NO.	Q'TY
1	PACKING CASE		1
2	AMP ASS'Y		1
3	DECK ASS'Y		1
4	CDP ASS'Y		1
5	TUNER ASS'Y		1
6	REMOTE ASS'Y		1
7	MANUAL ASS'Y		

10. PACKING



NO.	PARTS NAME	PARTS NO.	Q'TY
1	PACKING CASE		1
2	AMP ASS'Y		1
3	DECK ASS'Y		1
4	CDP ASS'Y		1
5	TUNER ASS'Y		1
6	REMOTE ASS'Y		1
7	MANUAL ASS'Y		